COMMONWEALTH OF PENNSYLVANIA.

DEPARTMENT OF AGRICULTURE.

BULLETIN No. 142.

TABULATED ANALYSES

OF

COMMERCIAL FERTILIZERS

FROM

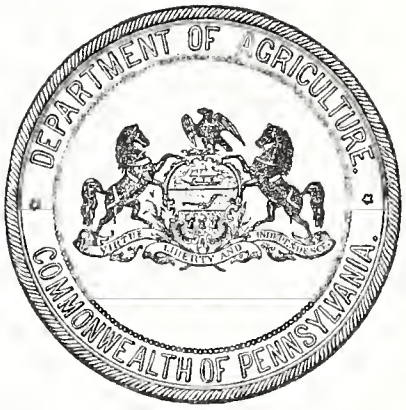
SAMPLES SELECTED IN ACCORDANCE WITH ACT OF MARCH 25, 1901,

BY THE

Pennsylvania Department of Agriculture,

FROM AUGUST 1, 1905, TO DECEMBER 31, 1905.

HARRISBURG, PA.:
HARRISBURG PUBLISHING CO., STATE PRINTERS.
1906.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AN ACT

To regulate the manufacture and sale of commercial fertilizers.

Section 1. Be it enacted, &c., That every package of commercial fertilizer sold, offered or exposed for sale, for manurial purposes, within this Commonwealth, shall have plainly stamped thereon the name of the manufacturer, the place of manufacture, the net weight of its contents, and an analysis stating the percentage therein contained of nitrogen in an available form, of potash soluble in water, of soluble and reverted phosphoric acid and of insoluble phosphoric acid: Provided, That any commercial fertilizer sold, offered, or exposed for sale, which shall contain none of the above named constituents shall be exempt from the provisions of this act.

Section 2. That every manufacturer or importer of commercial fertilizers as specified in section one of this act shall, on or before the first day of January next ensuing, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of said fertilizer sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred tons or less, he shall pay to the Treasurer of the State the sum of fifteen dollars for each and every brand of such commercial fertilizer sold within the State during the last preceding year; and if the said amount shall exceed one hundred tons, and be less than five hundred tons, he or they shall pay the sum of twenty dollars, as aforesaid; and if the said amount shall be five hundred tons or more, he or they shall pay the sum of thirty dollars, as aforesaid. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars, as aforesaid. Every said manufacturer shall, at the same time, file with the Secretary of Agriculture a copy of the analysis required by section one of this act, and shall then be entitled to receive from the Secretary of Agriculture a certificate showing that the provisions of this act have been complied with.

Section 3. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public.

Section 4. The Secretary of Agriculture, and such assistants, agents, experts, chemists, detectives and counsel as he shall duly authorize for the purpose, shall have full access, ingress and egress to all places of business, factories, farms, buildings, carriages, cars

and vessels, used in the manufacture, transportation or sale of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer, and take therefrom samples for analysis upon tendering the value of said samples.

Section 5. Any person selling, offering, or exposing for sale, any commercial fertilizer without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above named constituents that is contained therein, or for the sale of which all the provisions of section two have not been complied with, shall be guilty of misdemeanor, and on conviction shall forfeit a sum not less than twenty-five and not exceeding one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs and fines recovered shall be paid to him or his duly authorized agent, and by him be immediately paid into the State Treasury, to constitute a special fund to be used in accordance with the provisions of section six of this act.

Section 6. The money paid into the Treasury under the provisions of this act shall constitute a special fund, from which the cost of selecting samples, making analyses, and other expenses incident to the carrying into effect the provisions of this act, shall be paid: Provided, That the total amount thus expended shall in no case exceed the amount paid into the Treasury.

Section 7. The term "commercial fertilizers," as used in this act, shall be taken to mean any and every substance imported, manufactured, prepared or sold for fertilizing or manuring purposes, except barnyard manure, marl, lime and wood ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of December, one thousand nine hundred and one. All acts or parts of acts inconsistent with this act are hereby repealed, except that existing laws are to continue in force until this act goes into effect.

Approved—The 25th day of March, A. D. 1901.

LETTER OF TRANSMITTAL.

State College, Centre Co., Pa.

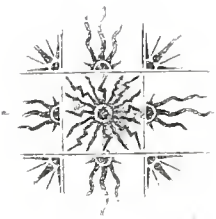
Dec. 28, 1905.

The Hon. H. B. Critchfield, *Secretary of Agriculture, Harrisburg, Pa.*

Dear Sir: I have the honor to transmit herewith a report of the analyses of the official samples of commercial fertilizers received from the Department's sampling agents for the fall season of 1905.

Very respectfully,

WM. FREAR.



FERTILIZER ANALYSES AUGUST 1, TO DECEMBER 31, 1905.

Since August 1, 1905, there have been received from authorized sampling agents ten hundred and fifty-six fertilizer samples, of which four hundred and fifty were subjected to analysis, the remainder being rejected either because they represented brands analyzed last season, or because they were regarded as not certainly representative of the brand whose name they bore. When two or more samples representing the same brand were received equal portions from the several samples were united and the composite sample was subjected to analysis.

The samples analyzed group themselves as follows, 285 complete fertilizers, furnishing phosphoric acid, potash and nitrogen; 6 dissolved bones furnishing phosphoric acid and nitrogen; 74 rock-and potash fertilizers, furnishing phosphoric acid and potash; 49 acidulated rock phosphates, furnishing phosphoric acid only; 35 ground bones, furnishing phosphoric acid and nitrogen, and one miscellaneous sample, which group includes substances not properly classified under the foregoing heads.

The determinations to which a complete fertilizer is subjected are as follows: (1) Moisture, useful for the comparison of analyses, for indication of dry condition and fitness for drilling, and also of the conditions under which the fertilizer was kept in the warehouse. (2) Phosphoric acid—total, that portion soluble in water, and of the residue, that portion not soluble in warm ammonia citrate solution (a solution supposed to represent the action of plant roots upon the fertilizer), which is assumed to have little immediate food value. By difference, it is easy to compute the so-called "reverted" acid, which is the portion insoluble in water but soluble in the citrate. The sum of the soluble and reverted is commonly called the "available" phosphoric acid. (3) Potash soluble in water—most of that present in green sand marl and crushed minerals, and even some of that present in vegetable materials such as cotton-seed meal, not being included because insoluble in water even after long boiling. (4) Nitrogen—This element is determined by a method which simply accounts for all present, without distinguishing between the quantities present in the several forms of ammonium salts, nitrates or organic matter. (5) Chlorin; this determination is made to afford a basis for estimating the proportion of the potash that is present as chlorid or muriate, the cheaper source. The computation is made on the assumption that the chlorin present, unless in excess, has been introduced in the form of muriate of potash; but doubtless there are occasional exceptions to this rule. One part of chlorin combines with 1.326 parts of potash to form the pure muriate; knowing the chlorin, it is, therefore, easy to compute the potash equivalent thereto. (7) In the case of ground bone, the state of sub-division is determined by sifting through accurately made sieves; the cost of preparation and especially the promptness of action of bone

in the soil depends very largely on the fineness of its particles the finer being much more quickly useful to the plant.

The law having required the manufacturer to guarantee the amount of certain valuable ingredients present in any brand he may put upon the market, chemical analysis is employed to verify the guaranties stamped upon the fertilizer sacks. It has, therefore, been deemed desirable in this report to enter the guaranty filed by the manufacturer in the office of the Secretary of Agriculture, in such connection with the analytical results that the two may be compared. An unfortunate practice has grown up among manufacturers of so wording the guaranty that it seems to declare the presence in the goods of an amount of a valuable constituent ranging from a certain minimum to a much higher maximum; thus, "Potash, 2 to 4 per cent" is a guaranty not infrequently given. In reality, the sole guaranty is for 2 per cent. The guaranteed amounts given for each brand in the following tables, are copied from the guaranties filed by the maker of the goods with the Secretary of Agriculture, the lowest figure given for any constituent being considered to be the amount guaranteed. For compactness and because no essentially important fact is suppressed thereby, the guaranties for soluble and reverted phosphoric acid have not been given separately, but are combined into a single guaranty for available phosphoric acid; in cases where the maker's guaranty does not specifically mention available phosphoric acid, the sum of the lowest figures given by him for soluble and reverted phosphoric acid is used. The law of 1879 allowed the maker to express his guaranty for nitrogen either in terms of that element or in terms of the ammonia equivalent thereto; since ammonia is composed of three parts of hydrogen and fourteen parts of nitrogen, it is a very simple matter to calculate the amount of one, when the amount of the other is given; the amount of nitrogen multiplied by 1.214 will give the corresponding amount of ammonia, and the amount of ammonia multiplied by 0.824 will give the corresponding amount of nitrogen. In these tables, the expression is in terms of nitrogen.

The law of 1901 abolishes this alternative and requires that the guaranty shall be given in terms of nitrogen. Many manufacturers after complying with the terms of the law, insert additional items in their guaranties, often with the result of misleading or confusing the buyer; the latter will do well to give heed to those items only that are given as the law requires and that are presented in these tables.

A summary of the analyses made this season may be presented as follows:

Summary of Analyses Made This Season.

	Complete fertilizers.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Number of analyses,	285	74	6	49	35
Moisture, per cent.,	10.09	10.89	6.15	9.22	5.19
Phosphoric acid:					
Total, per cent.,	10.54	11.47	16.06	15.71	22.59
Soluble, per cent.,	4.51	5.63	4.41	9.05	.....
Reverted, per cent.,	4.29	4.74	5.72	5.07	.....
Insoluble, per cent.,	1.83	1.10	5.93	1.57	.....
Potash, per cent.,	2.93	3.24	.....	.....	.....
Nitrogen, per cent.,	1.26	.....	2.05	.....	2.96
Mechanical analysis of bone:					
Fine,	.....	.....	.....	.....	74
Coarse,	.....	.....	.....	.....	26
Commercial valuation,	22.45	15.05	25.85	13.34	28.70
Average selling price,	21.39	15.97	24.78	12.21	27.70
Commercial value of samples whose selling price is ascertained,	22.35	15.04	25.85	13.51	28.70

The cases of departure of goods from their guaranteed composition observed this season, including only those cases in which it amounted to two-tenths per cent. or more, were as follows:

Summary of Instances of Deficiency From Guaranty.

	Complete fertilizers.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Deficient in four constituents,	2	.....	.....	.....	.....
Deficient in three constituents,	1	1	1	.....	.....
Deficient in two constituents,	35	6	1	2	.....
Deficient in one constituent,	69	17	2	3	11
Total samples in which deficiency occurred,	107	24	4	5	11

The cases of deficiency noted during the past thirteen seasons in the goods as compared with their guaranties expressed in percentage of the total number of goods of each class analyzed, are as follows:

Percentage of Deficiency, 1899-1905.

	Spring, 1899.	Fall, 1899.	Spring, 1900.	Fall, 1900.	Spring, 1901.	Fall, 1901.	Spring, 1902.	Fall, 1902.	Spring, 1903.	Fall, 1903.	Spring, 1904.	Fall, 1904.	Spring, 1905.	Fall, 1905.
Complete fertilizers,	38.4	33.7	42.0	40.8	31.6	34.6	40.0	36.7	37.5	37.9	39.5	49.2	35.3	37.5
Dissolved bone,	50.0	14.3	*50.0	*50.0	†	40.0	*100.0	50.0	33.3	63.6	‡	50.0	§100.0	66.6
Rock and potash,	19.1	34.2	29.2	33.3	31.7	26.2	30.3	43.5	32.9	43.2	50.7	35.3	30.9	33.0
Dissolved rock,	13.8	14.5	5.4	19.4	22.5	8.2	15.2	8.9	23.2	20.0	20.0	11.1	9.3	10.0
Ground bone,	18.4	25.3	36.7	11.8	34.1	18.2	17.2	25.9	33.3	.....	36.3	36.8	40.0	31.4
All classes except miscellaneous,	30.9	29.2	35.2	34.3	30.8	27.6	34.2	33.2	35.1	44.7	39.6	41.4	32.8	31.4

*Only two samples analyzed.
†Only one sample analyzed.
‡Only two samples analyzed for which no guaranties are recorded.
§Only two samples analyzed for which guaranties are recorded.

A comparison of the average composition of all samples of complete fertilizers for which guaranties are recorded with the average of the corresponding guaranties, for several seasons past including those of this season follows:

Average Composition and Guaranty Compared.

	Average composition. Per cent.	Average guaranty. Per cent.
Fall, 1901.		
Phosphoric acid:		
Total,	11.51	9.82
Available,	10.60	8.06
Potash,	2.77	2.66
Nitrogen,	1.39	1.39
Spring, 1902.		
Phosphoric acid:		
Total,	10.80	9.29
Available,	8.25	7.82
Potash,	3.90	3.66
Nitrogen,	1.62	1.58
Fall, 1902.		
Phosphoric acid:		
Total,	12.58	11.46
Available,	9.95	9.29
Potash	2.69	2.60
Nitrogen,	1.57	1.55
Spring, 1903.		
Phosphoric acid:		
Total,	11.90	10.67
Available,	9.36	8.73
Potash,	3.85	3.63
Nitrogen,	1.58	1.61
Fall, 1903.		
Phosphoric acid:		
Total,	10.76	9.65
Available,	8.84	8.13
Potash,	4.09	3.90
Nitrogen,	1.33	1.29
Spring, 1904.		
Phosphoric acid:		
Total,	10.24	9.32
Available,	8.27	7.87
Potash,	4.09	3.90
Nitrogen,	1.58	1.55
Fall, 1904.		
Phosphoric acid:		
Total,	10.49	9.72
Available,	8.59	7.70
Potash,	2.87	2.81
Nitrogen,	1.25	1.29
Spring, 1905.		
Phosphoric acid:		
Total,	10.16	9.42
Available,	8.50	7.92
Potash,	4.55	4.22
Nitrogen,	1.61	1.58
Fall, 1905.		
Phosphoric acid:		
Total,	10.63	9.62
Available,	8.72	8.13
Potash,	2.90	2.42
Nitrogen,	1.26	1.20

It is of interest to note how closely the system of valuations, based upon the wholesale prices of raw materials in the principal markets during the most important buying season and upon certain average allowances for expenses and profit on the part of the mixer and jobber, coincides with the retail prices later ascertained. A comparison for several seasons past is given below:

Comparison of Selling Price and Valuation, 1899-1905.

	Selling price.	Valuation.	Excess of valuation over selling price.
Complete fertilizers:			
1899, Spring,	$23.60	$24.70	$1.10
Fall,	22.98	23.42	.44
1900, Spring,	25.38	24.61	—.77
Fall,	23.22	23.84	.62
1901, Spring,	23.92	24.76	.84
Fall,	22.28	23.75	1.47
1902, Spring,	24.10	25.33	1.25
Fall,	21.83	23.31	1.48
1903, Spring,	24.57	24.15	—.42
Fall,	21.98	22.77	.79
1904, Spring,	24.28	24.99	.71
Fall,	21.82	22.53	.71
1905, Spring,	24.63	25.60	.97
Fall,	21.39	22.35	.96
Dissolved bone:			
1899, Spring,	21.75	21.81	.06
Fall,	19.00	21.12	2.12
1900, Spring,	26.00	30.87	4.87
Fall,	23.50	22.74	—.76
1901, Spring,	28.00	29.00	1.00
Fall,	23.91	23.36	—.55
1902, Spring,	16.50	17.35	.85
Fall,	25.30	27.08	1.78
1903, Spring,	31.17	30.87	—.30
Fall,	23.67	24.57	.90
1904, Spring,	31.50	28.42	—3.08
Fall,	24.94	27.77	2.83
1905, Spring,	23.83	22.70	—1.13
Fall,	24.78	25.85	1.11
Rock and potash:			
1899, Spring,	16.83	15.16	—1.67
Fall,	17.28	14.53	—2.75
1900, Spring,	17.35	14.71	—2.64
Fall,	18.11	14.63	—3.48
1901, Spring,	16.20	14.60	—1.60
Fall,	16.00	14.23	—1.86
1902, Spring,	16.45	15.05	—1.40
Fall,	15.97	14.46	—1.51
1903, Spring,	17.20	14.74	—2.46
Fall,	15.96	14.86	—1.10
1904, Spring,	16.47	15.46	—1.01
Fall,	15.89	14.92	—.97
1905, Spring,	16.11	15.49	—.62
Fall,	15.97	15.04	—.97
Dissolved rock:			
1899, Spring,	13.36	14.03	.67
Fall,	12.64	13.13	.49
1900, Spring,	13.57	13.48	—.09
Fall,	13.96	13.11	—.85
1901, Spring,	13.90	13.51	—.39
Fall,	13.18	13.82	.64
1902, Spring,	13.73	13.49	—.24
Fall,	13.54	13.70	.12
1903, Spring,	15.13	13.34	—1.79
Fall,	14.64	13.12	—1.52
1904, Spring,	14.59	14.05	—.54
Fall,	13.89	14.09	.20
1905, Spring,	13.64	13.86	.22
Fall,	12.21	13.51	1.30

Comparison of Selling Price and Valuation, 1899-1905.—Continued.

	Selling price.	Valuation.	Excess of valuation over selling price.
Ground bone:			
1899, Spring,	26.67	28.11	1.44
Fall,	24.98	27.23	2.25
1900, Spring,	28.42	25.91	—2.51
Fall,	28.73	26.87	—1.86
1901, Spring,	27.59	28.71	1.12
Fall,	25.94	27.69	1.75
1902, Spring,	28.52	26.80	—1.72
Fall,	28.09	27.51	—.58
1903, Spring,	28.67	27.25	—1.42
Fall,	27.52	27.07	—.45
1904, Spring,	28.20	27.70	—.50
Fall,	27.02	27.97	.95
1905, Spring,	29.08	26.72	—2.36
Fall,	27.70	28.70	1.00

The organization of the work here reported has been as follows:

Determination of moisture, H. D. Edmiston; total phosphoric acid, W. A. Smith, B. S.; soluble and insoluble phosphoric acid, N. C. Hamner, B. S.; assisted by H. D. Edmiston; potash, M. H. Pingree, B. S.; nitrogen, P. V. Flint, B. S.; computer, Miss A. Jones.

The care of samples, supervision of the details of laboratory work and tabulation of results have been performed by M. S. McDowell, M. S.

COMPLETE

Furnishing Phosphoric Acid,

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Abbott & Martin Rendering Co., Columbus, Ohio.		
1493	Harvest King,	R. F. Smith, Saltsburg,	6.71
1492	†Universal Fertilizer,	R. F. Smith, Saltsburg,	10.86
2120		Wesley Walton, Beaver,	
	Allegheny City Fertilizer Works, Allegheny, Pa.		
1540	Banner Phosphate,	D. B. Douds & Sons, Monaco,	6.33
1539	Grain and Grass Phosphate,	D. B. Douds & Sons, Monaco,	5.15
1529	Growers' Choice,	George McHattie, Beaver Falls,	7.43
	Allentown Manufacturing Co., Allentown, Pa.		
1967	†Special $25.00 Phosphate,	Isaac Linsenbigler, Quakertown,	9.81
2124		Jas. Peters, Westcoville,	
	American Agricultural Chemical Co., New York.		
1951	Royal Bone Phosphate,	Selligman & Co., Tamaqua,	11.01
1927	Schuylkill Co. Grange Fertilizer No. 2,	J. H. Schrope, Sec'y, Good Spring,	9.91
1924	Schuylkill Co. Grange Fertilizer No. 3,	J. H. Schrope, Sec'y, Good Spring,	11.28
1926	Schuylkill Co. Grange Fertilizer No. 4,	J. H. Schrope, Sec'y, Good Spring,	10.78
1669	Pure Bone Phosphate,	H. Passmore & Bro., Oxford,	9.60
	Clark's Cove Branch, New York.		
1950	Good Grower Potato Phosphate,	Selligman & Co., Tamaqua,	6.84
	Crocker Branch, Buffalo, N. Y.		
1600	†Crocker's Universal Grain Grower,	Geo. Croushore, Grapeville,	13.65
1809		Borland & Felt, Rockland,	
1804	†New Rival Fertilizer,	H. B. Mitchell & Co., Emlenton,	12.40
1870		W. H. Riland, Friedensburg,	
1819	Wheat and Corn Fertilizer,	T. F. Glenn, Mercer,	12.15
	Detrick Branch, Baltimore, Md.		
1751	Detrick's Imperial Compound,	Jas. McCoully, Mifflintown,	11.58
1237		Levi Berkey, Somerset,	
2102		W. H. Heckert, Bakerstown,	
1236	†Detrick's Kangaroo Komplete Kompound.	Levi Berkey, Somerset,	11.36
1206		Jacob Bashore, Jonestown,	
1245		E. Dickey, Barrondale,	
1673		Passmore & Gillespie, Nottingham,	
	Lazaretto Branch, New York.		
2173	Lazaretto Crop Grower,	Walker Bros., Glade,	11.13
	Milson Branch, E. Buffalo, N. Y.		
1208	†Milsom's Buffalo Fertilizer,	Jacob Umberger, Jonestown,	12.00
1816		J. F. Crill, Mercer,	
1815	†Milsom's Erie King Fertilizer,	J. F. Crill, Mercer,	11.63
1621		F. M. Carmon, Clearfield,	
1842			
	Moro-Phillips Branch, Phila., Pa.		
1162	†Moro-Philips C. and G. Complete Fertilizer.	J. H. and S. E. Weber, Boalsburg,	13.43
2067		E. H. Habbersett, Elwyn,	
1194	Moro-Philips Standard Guano,	S. K. Donkel, Hamlin,	12.83
	Niagara Branch, New York.		
1554	†Niagara Wheat and Corn Producer,	J. C. Black, Freedom	12.46
1805		J. K. Haggerty, East Sandy,	
	Pacific Guano Branch, New York.		
1795	Pacific Nobsque Guano,	J. W. Showalter, Millmont,	11.17
1796	Pacific A No. 1 Phosphate,	J. W. Showalter, Millmont,	11.32

†Composite sample.

FERTILIZERS.

Potash and Nitrogen.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
1.53	8.27	2.59	12.39	10.00	9.80	8.00	1.30	.....	*1.30	2.00	*.74	1.24	19.92	23.00	1493
3.49	5.51	2.23	11.23	10.00	9.00	8.00	3.87	.....	*3.87	4.00	.84	.82	22.20	23.50	1492
														22.00	2120
3.77	4.76	.89	9.36	.....	8.47	.....	2.52	.....	2.52	.....	.86	.....	19.74	22.00	1540
5.35	3.49	1.32	10.16	10.00	*8.84	9.00	4.12	.....	4.12	4.00	.83	.82	22.14	23.00	1539
4.63	3.52	.82	8.97	7.00	8.15	6.00	2.21	.....	2.21	2.00	1.07	.82	20.08	18.00	1529
8.44	4.24	3.07	15.75	14.00	12.68	11.00	2.11	.....	2.11	2.00	1.31	1.03	27.00	.....	1967
														25.00	2124
4.54	3.55	1.21	9.30	.....	8.09	.....	2.32	.....	2.32	.....	1.23	.....	21.21	25.00	1951
4.53	3.82	1.25	9.60	.....	8.35	.....	4.25	.....	4.21	.....	.90	.....	21.90	20.00	1927
4.41	4.02	1.21	9.64	.....	8.43	.....	4.44	.....	4.44	.....	1.52	.....	24.81	24.00	1924
4.61	3.59	1.30	9.50	.....	8.20	.....	10.43	.....	10.43	.....	1.69	.....	31.65	28.00	1926
4.06	5.61	4.79	14.46	.....	9.67	.....	2.12	.....	2.12	.....	1.61	.....	25.71	25.00	1669
3.50	2.91	.78	7.19	.....	6.41	.....	5.35	.....	5.35	.....	1.27	.....	22.36	32.00	1950
4.84	3.92	1.43	10.19	9.00	8.76	8.00	2.16	.....	2.16	2.00	1.03	.82	20.95	.....	1600
														23.00	1809
6.22	3.51	1.59	11.32	11.00	9.73	9.00	2.11	.....	2.11	2.00	1.30	1.24	23.14	23.00	1804
														20.00	1870
4.76	4.24	2.28	11.28	9.00	9.00	8.00	2.07	.....	2.07	1.50	2.14	2.06	26.36	24.00	1819
														18.00	1751
5.21	3.10	1.33	9.64	9.00	8.31	8.00	2.14	.....	2.14	2.00	.98	.82	20.28	18.00	1237
														20.00	2102
														22.00	1236
3.85	4.35	2.31	10.51	9.00	8.20	8.00	3.08	.....	3.08	3.00	1.67	1.65	24.34	25.00	1206
														22.00	1245
														23.00	1673
4.46	4.02	1.63	10.11	9.00	8.48	8.00	2.28	.....	2.28	2.00	1.95	1.65	24.86	.....	2173
4.74	4.89	1.59	11.22	9.00	9.63	8.00	2.05	.....	2.05	1.50	*1.95	2.06	25.74	18.60	1208
														22.00	1816
														19.00	1815
3.84	4.01	1.49	9.34	8.00	7.85	7.00	1.34	.....	1.34	1.00	1.09	.82	19.39	14.35	1621
														21.50	1842
5.60	2.88	1.16	9.64	9.00	8.48	8.00	2.13	.....	2.13	2.00	.87	.82	19.76	21.00	1162
														23.00	2067
4.23	4.26	1.12	9.61	9.00	8.49	8.00	4.33	.....	4.33	4.00	.89	.82	22.04	22.00	1194
5.93	3.76	1.89	11.58	11.00	9.69	9.00	2.28	.....	*2.28	3.00	1.40	1.24	23.91	24.00	1554
														28.00	1805
2.96	4.95	1.35	9.26	9.00	*7.91	8.00	2.22	.....	2.22	2.00	1.10	1.03	20.12	22.00	1795
3.08	3.99	1.11	8.18	8.00	7.07	7.00	1.13	.....	1.13	1.00	.96	.82	17.52	20.00	1796

*Constituent falls below **guaranty.**

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Packers' Union Branch, Rutland, Vt.		
1900	American Wheat Grower,	Wm. Fahl, Auburn,	12.00
1254	†Packers Union American Wheat and	R. C. Heffley, Berlin,	14.50
1716	Rye Grower.	J. E. Young, Petersburg,	
	Reese Branch, Baltimore, Md.		
1631		John B. Curry, Swatara,	
1221	†Reese's Ammoniated Bone Phosphate	Isaac C. Holcomb, New Hope,	11.28
2064	Mixture.	Harry Wilson, Frazier,	
1630		John B. Curry, Swatara,	
1227	†Reese's Half and Half,	Benjamin Hall, Danboro,	10.38
2029		Wm. C. Ball, Media,	
2026	Harvest Queen,	S. C. Walker & Co., Chadd's Ford Junc.	10.53
	Sharpless & Carpenter Branch, Philadelphia, Pa.		
1941		Jonas Kunkle, New Ringgold,	
1218	†S. and C. Dissolved Bone Phosphate for	Hobensack Bros., Ivyland,	12.63
2005	Potatoes and General Use.	L. A. Higger, Joanna,	
2040		H. L. Yearsley, Thornton,	
1324	†Sharpless and Carpenter's No. 2 for	H. H. Erdman, Milford Square,	11.31
2006	Grain and Grass.	L. A. Geiger, Joanna,	
	Susquehanna Branch, Baltimore, Md.		
1668	†Susquehanna Ammoniated Bone Phos.,	H. Passmore & Bro., Oxford,	6.57
1877		Wm. Stump, Cressona,	
1765	†Susquehanna Bone Phosphate,	John F. Miller, Madisonburg,	12.28
1801		J. M. Getz, Lock Haven,	
1660	Susquehanna Pure Bone Phosphate,	H. P. Passmore, Kelton,	12.67
	Tygert-Allen Branch, Phila., Pa.		
2007	Allen's Special Wheat and Grass,	F. H. Ohl Robesonia,	8.81
2008		F. H. Ohl Robesonia,	
1209	†Tygert-Allen Star Bone Phosphate,	Henry Palmer, Langhorne,	12.15
2053		T. H. Supplee & Co., Bryn Mawr,	
	Williams & Clark Branch, N. Y.		
2071	Americus,	J. C. Bonsall, Elwyn,	14.18
1223	Williams & Clark Americus Universal Ammoniated Dissolved Bone.	Jacob Rush, Plumsteadville,	12.07
	Zell Branch, Baltimore, Md.		
1759	Zell's Economizer Phosphate,	W. D. Shirk, Oakland Mills,	12.26
1889		John Reed, Friedensburg,	
1758		W. D. Snirk, Oakland Mills,	
1350	†Zell's Hustler Phosphate,	G. B. Murphy, Keys,	14.26
1888		John Reed, Friedensburg,	
1775		Benjamin Hummel Northumberland,	
1379	†Zell's Little Giant,	D. B. Myers, Idaville,	11.62
1873		John Reed, Friedensburg,	
	American Reduction Co., Pittsburg, Pa.		
1604		J. C. Jelison, Darrah,	
1532	†Common Sense,	H. E. Hartford, Dartington,	6.10
1848		N. G. Grammling, Elton,	
	Armour Fertilizer Works, Chicago, Ill.		
1476		Frank Douglass, Indiana,	
1291		D. N. Shannaman, Richland,	
1251		S. W. Fritz, Garrett,	
1201	†Armour's Grain Grower,	John H. Frank, Annville,	8.18
1547		W. H. Snyder, Beaver,	
1552		Charles F. Wills & Co., Parranus,	
1557		Harvey Black, Ligonier,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.						
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.	Found.	Guaranteed.			
5.30	3.29	.93	9.52	9.00	8.59	8.00	1.76	.....	*1.76	2.00	.83	.82	19.29	22.00	1900
5.34	3.42	1.21	9.97	9.00	8.76	8.00	2.09	.....	2.09	2.00	.89	.82	20.17	18.00	1254
														20.00	1716
6.09	3.35	.92	10.36	10.00	9.44	9.00	2.97	.....	*2.97	3.00	.90	.82	21.64	20.00	1631
														23.00	1221
														20.00	2064
3.62	3.92	1.28	8.82	8.00	7.54	7.00	1.11	.....	1.11	1.00	.99	.82	18.22	18.00	1630
														20.00	1227
														20.00	2029
5.42	4.33	1.34	11.09	9.00	9.75	8.00	2.28	.....	2.28	2.00	1.27	1.03	22.96	22.00	2026
5.66	2.88	1.47	10.01	9.00	8.54	8.00	5.52	.....	*5.52	6.00	2.06	2.06	28.71	27.00	1941
														27.00	1218
														28.00	2005
														27.00	2040
4.09	3.46	1.04	8.59	8.00	7.55	7.00	1.15	.....	1.15	1.00	.93	.82	18.04	20.00	1324
														18.00	2006
5.10	3.67	1.44	10.21	9.00	8.77	8.00	2.15	.....	2.15	2.00	1.68	1.65	23.85	21.00	1668
														21.00	1877
4.74	3.35	1.48	*9.57	11.00	*8.09	9.00	2.15	.....	2.15	2.00	1.65	1.65	22.98	22.50	1705
														27.00	1705
6.55	4.54	2.15	13.24	11.00	11.09	9.00	2.23	.....	2.23	2.00	*1.64	1.65	26.50	25.00	1660
2.24	5.23	1.73	9.20	8.00	7.47	7.00	1.19	.....	1.19	1.00	1.13	.82	19.03	17.00	2007
5.58	2.82	1.58	9.98	.....	8.40	.....	2.84	.....	2.84	.....	2.09	.....	26.13	24.00	2008
														26.00	1209
														26.00	2053
4.24	4.40	.81	9.45	9.00	8.64	8.00	2.08	.....	2.08	2.00	1.80	1.65	23.74	24.00	2071
4.58	3.79	1.79	10.16	9.00	8.37	8.00	2.06	.....	2.06	2.00	1.66	1.65	23.25	20.00	1223
5.14	3.32	1.25	9.71	9.00	8.46	8.00	2.08	.....	2.08	2.00	.94	.82	20.11	.....	1759
														18.00	1889
														.....	1758
6.03	3.16	.84	10.03	10.00	9.19	9.00	3.04	.....	3.04	3.00	.87	.82	21.26	19.50	1350
														19.50	1888
														16.60	1775
3.94	3.33	1.25	8.52	8.00	7.27	7.00	1.31	.....	1.31	1.00	.87	.82	17.55	17.00	1379
														17.00	1873
2.73	3.85	1.39	7.97	7.00	6.58	6.00	.62	.....	*.62	1.00	1.65	1.65	19.63	17.50	1604
														18.00	1532
														18.00	1848
4.82	3.56	2.66	11.04	10.00	8.38	8.00	2.42	.....	2.42	2.00	*1.57	1.65	23.66	25.00	1476
														21.00	1291
														23.00	1251
														23.00	1201
														24.00	1547
														23.00	1552
														24.00	1557

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
2049	No. 1 Bone Phosphate,	Dewees & Bracken, Paoli,	8.00
1564	†Armour's Royal Ammoniated Bone,	R. J. Hoffman & Son, New Alexandria.	8.61
1259		C. E. Ringler, Berlin,	
1628		S. H. Brinser, Middletown,	
1721		Wm. Henderson, Alexandria,	
1558	Armour's Wheat, Corn and Oats Special,	Harvey Black, Ligonier,	8.36
1633	†Armour's Wheat Special,	J. H. Frank, Annville,	5.89
1280		Berritts & Sons, Somerset,	
1635		W. J. Bowman, Lebanon	
2055	Royal Ammoniated Bone,	H. Supplee & Son, Conshohocken,	14.15
1444	Cook, Deardorff & Co., Wheat, Grain and Grass Special.	Cook, Deardorff & Co., Dillsburg,	7.43
	Ball & Rhodes, Media, Pa.		
2031	Favorite,	Wm. C. Ball, Media,	12.33
	Baltimore Fertilizer Co., Baltimore, Md.		
1439	Honest Crop Grower,	Levi A. Cassel, Dillsburg,	9.30
1441	†Honest Harvest,	Levi A. Cassel, Dillsburg,	12.13
2014		A. K. Snyder, Maple Grove,	
1440	†Old Honesty, Your Money's Worth,	Levi A. Cassel, Dillsburg,	11.88
2015		A. K. Snyder, Maple Grove,	
	Baltimore Pulverizing Co., Baltimore, Md.		
2093	Farmers' Favorite Fertilizer,	J. M. Allison, Hookstown,	5.73
	Baugh & Sons Co., Phila., Pa.		
1174	†Baugh's Animal Bone and Potash Compound for all Crops.	J. W. Eby, Zion,	10.75
1856		N. J. Hoffman, Geistown,	
1217	†Baugh's Animal Bone and Potash Compound for all Crops.	Hobensack Bros., Ivyland,	10.10
1241		F. W. Mason, Rockwood,	
1904	Baugh's Double Eagle $25 Raw Bone Super Phosphate.	A. W. Berkhiser, Auburn,	10.75
1321	†Baugh's Excelsior Corn Peanut Guano,	Levi S. Yoder, Perkasie,	10.04
2002		Joseph M. Jackson, Joanna,	
1838	Baugh's Excelsior Guano,	D. J. Davis, Ebensburg,	8.11
1692	†Baugh's Excelsior Super Phosphate,	Foreman & Smith, Centre Hall,	10.53
1345		E. Darron, Dover,	
1834		H. L. Stultz, Altoona,	
2178	Export Bone with Potash,	A. Gaddis & Co., Uniontown,	6.14
1176	Peninsula Grain Producer,	John W. Eby, Zion	10.99
1466	Peninsula Grain Producer,	H. L. Stultz, Ducansville,	10.53
1645	Potato and Truck Special,	John W. Root, Kimberton,	11.10
1276	†Wheat Fertilizer for Wheat and Grass,	C. H. Smucker, Friedens,	10.26
1263		P. J. Blough, Hooversville,	
1212		Morris Briggs, Woodburn,	
1175		John W. Eby, Zion,	
1290		S. K. Imboden & Son, Annville,	
1346		Fulton & Sons Co., Stewartstown,	
1399		A. J. Spannuth, Myerstown,	
	The Berg Co., Philadelphia, Pa.		
1216	Pure Dissolved Bone and Potash for Wheat and Grass.	J. A. Danehower, Southampton,	6.33
1876	Special Bone Manure,	Geo. E. Hoffman & Co., Cressona,	7.93
	Berger Bros, Easton, Pa.		
1970	Lehigh,	Samuel Berger, Perkasie,	9.33
	A. H. Blaker & Co., Fox Chase, Pa.		
1340	Special Fertilizer for General Use,	Levi Garner, Doylestown,	10.03
1339	Special Wheat and Grass Fertilizer,	Levi Garner, Doylestown,	10.47
	D. Bloeher & Co., Baltimore, Md.		
1418	Dissolved Raw Bone and Potash,	H. E. Riddlemoser, McKnightstown,	11.07
1416	High Grade Super Phosphate of Bone,	H. E. Riddlemoser, McKnightstown,	10.45

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 13.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
4.88	4.21	1.70	10.79	10.00	9.09	8.00	2.38	.....	2.38	2.00	2.03	1.65	26.10	23.00	2049
5.92	2.49	.87	9.28	10.00	8.41	8.00	4.34	.....	4.34	4.00	.84	.82	21.86	26.00 21.00 18.55	1564 1259 1628 1721
4.62	3.50	2.17	10.29	9.00	8.12	7.00	2.29	.....	2.29	1.00	1.21	.82	21.50	23.00	1558
5.55	3.01	1.10	*9.66	10.00	8.56	8.00	2.19	.....	2.19	2.00	.85	.82	19.83	18.00 23.00 18.00	1633 1280 1635
4.99	3.13	.77	8.89	10.00	8.12	8.00	4.20	.....	4.20	4.00	1.06	.82	22.14	26.00	2055
5.53	2.46	.64	*8.63	9.00	7.99	7.00	5.21	.....	5.21	5.00	*.65	.82	21.26	19.50	1444
5.30	3.79	1.09	10.18	10.00	9.09	9.00	3.11	.....	3.11	3.00	1.09	.82	22.35	25.00	2031
1.59	5.63	4.40	11.62	.....	*7.22	8.00	.98	.....	*.98	1.00	1.02	.82	19.08	19.00	1439
6.59	2.79	1.76	11.14	.....	9.38	9.00	2.80	.....	2.80	2.50	1.00	.82	22.35	20.00 22.00	1441 2014
1.81	6.24	2.72	10.77	.....	8.05	8.00	2.02	.....	2.02	2.00	.76	.41	19.02	17.00 18.00	1410 2015
.93	5.10	1.82	7.85	.....	6.03	5.50	1.70	.....	1.70	1.60	.89	.82	16.93	18.00	2093
5.14	3.59	1.47	10.11	.....	8.64	8.00	2.41	.....	2.41	2.00	*1.64	1.65	23.80	22.00 22.00	1174 1856
5.78	3.50	1.69	10.97	.....	9.28	8.00	2.22	.....	2.22	2.00	1.82	1.65	25.03	24.00	1217 1241
5.50	3.93	2.12	11.55	.....	9.43	8.00	1.39	.....	1.39	1.00	2.03	1.65	25.68	22.00	1904
5.83	3.12	2.20	11.15	.....	8.95	8.00	4.40	.....	4.40	4.00	1.12	.82	24.13	..... 21.00	1321 2002
2.25	6.19	2.18	10.62	.....	8.44	.....	4.12	.....	4.12	.....	1.02	.....	22.45	21.00	1838
6.32	3.17	1.21	10.70	.....	9.49	8.00	4.27	.....	4.27	4.00	.98	.82	23.64	21.50 19.00 23.00	1692 1345 1834
.10	6.71	6.13	12.94	.....	*6.81	11.00	2.47	.....	2.47	2.00	2.20	1.65	26.16	26.00	2178
6.27	2.75	1.01	10.03	.....	9.02	8.00	2.33	.....	2.32	2.00	.96	.82	20.95	19.00	1176
6.46	2.63	.56	9.65	.....	9.09	8.00	2.38	.....	2.38	2.00	.94	.82	20.85	20.00	1466
5.37	2.39	1.81	9.57	.....	7.76	7.00	5.87	1.35	7.22	7.00	3.23	2.88	35.37	26.00	1645
6.40	3.13	1.54	11.07	.....	9.53	8.00	2.41	.....	2.41	2.00	1.74	1.65	25.26	21.00 25.00 24.00 22.00 20.00 20.00 21.00	1276 1263 1212 1175 1290 1346 1399
4.67	4.42	4.10	13.19	.....	9.09	9.00	3.21	.....	*3.21	5.00	*1.28	2 47	24.70	30.00	1216
3.53	5.79	3.72	13.04	.....	9.32	7.00	2.74	.....	*2.74	3.00	*1.30	1.65	24.16	25.00	1876
4.90	4.18	1.47	10.55	9.50	9.08	8.00	4.69	.....	*4.69	5.00	1.32	.82	24.99	.....	1970
4.41	2.84	.57	*7.82	9.00	*7.25	8.00	3.15	.....	3.15	2.00	1.09	1.03	20.25	25.00	1340
6.60	2.14	.74	9.48	.....	8.74	8.00	4.37	.....	4.37	4.00	*2.19	2.47	28.16	30.00	1339
8.13	2.47	2.00	12.60	12.00	10.69	10.00	2.53	.....	2.53	2.50	*1.64	2.06	26.46	22.00	1418
7.11	1.91	1.97	*10.99	12.00	*9.02	10.00	2.36	.....	2.36	1.50	*.95	1.24	21.48	20.00	1416

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Bowker Fertilizer Co., Boston, Mass.		
1511	Ammoniated Dissolved Bone,	B. F. McClure & Bro., Burgettstown,	11.25
1394	†Bowker's Sure Crop Phosphate,	Daniel Bensing, Myerstown,	12.95
1224		Wilson F. Myers, Piperville,	
1510		B. F. McClure & Bro., Burgettstown,	
	Elias S. Brubacher, Millback, Pa.		
1294	Wheat and Grass Special Phosphate,	Elias S. Brubacher, Richland,	12.53
	Cambria Fertilizer Co., Johnstown, Pa.		
1461	†B. and B. Phosphate,	Wallace Sherline, Wilmore,	8.18
1836		H. A. Shoemaker, Ebensburg,	
	Cincinnati Phosphate Co., Cincinnati, Ohio.		
1830	Capitol Complete Fertilizer,	F. W. Williams, Sandy Lake,	10.90
1831	Capitol Tobacco and Potato Food,	F. W. Williams, Sandy Lake,	14.31
	E. Frank Coe, New York.		
1314	Empire State Brand No. 1 Complete Fertilizer.	George B. Moyer, Perkasie,	10.15
1312	No. 1 Pennsylvania Grain Special,	Geoge B. Moyer, Perkasie,	10.96
1313	Pennsylvania Grain Special,	George B. Moyer, Perkasie,	10.18
1311	Special Grass and Grain Fertilizer,	George B. Moyer, Perkasie,	10.66
	Henry Cope & Co., Lincoln University, Pa.		
1684	Penna. Wheat Grower and Complete Manure.	Henry Cope & Co., Lincoln University.	9.31
1685	Pure Bone Phosphate,	Henry Cope & Co., Lincoln University.	6.95
1683	Queen of Elks Valley Phosphate,	Henry Cope & Co., Lincoln University.	11.30
	Josiah Cope & Co., Lincoln University, Pa.		
1919	†Wheat and Grass Special,	Preston Artz, Elizabethville,	12.35
1261		Jerome Stuff, Stoyestown,	
2046		Ed. Marsh, Malvern,	
	Darling & Co., Chicago, Ill.		
1471	Darling's General Crop Brand,	J. Moorehead, Indiana,	6.83
1817	Sure Winner Brand,	H. J. Ebbert, Mercer,	6.68
1818	Western Brand,	H. J. Ebbert, Mercer,	3.35
	J. Scott Dickey & Co., Lancaster, Pa.		
2168	C. P. Brand,	H. S. Vogel, Manheim,	10.84
2131	J. S. D. Brand,	J. D. Sellers, Ephrata,	7.00
2132	Rieker Brand,	J. D. Sellers, Ephrata,	8.71
2167	Dickey's Tobacco Stem Fert. and Insecticide.	H. S. Vogel, Manheim,	8.65
	Jas. G. Downward & Co., Coatesville, Pa.		
1338	†Ammoniated Bone Phosphate,	H. D. Schmidt, Doylestown,	10.81
1642		Leedon Kirk, West Chester,	
2036	Royal Bone Phosphate,	Leedon Kirk, West Chester,	9.00
2054	Special Bone Fertilizer,	Thos. Coulston, Plymouth Meeting,	8.63
1688	Special Mixture,	Leedon Kirk, West Chester,	7.04
2032	Special Wheat and Grass,	Vincent Litzenburg, Elwyn,	6.88
	Wallace Dungan, Doylestown, Pa.		
1954	Pebble Hill Home Made Animal Bone Mixture.	Wallace Dungan, Doylestown,	11.80

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
6.06	3.97	1.81	11.84	.....	10.03	.....	2.29	.....	2.29	.....	1.52	.....	24.66	26.00	1511
														20.00	1394
5.95	3.65	1.22	10.82	10.00	9.60	9.00	2.12	.....	2.12	2.00	1.00	.82	21.50	.....	1224
														24.00	1510
5.52	2.86	1.27	9.65	.....	8.38	8.00	2.07	.....	2.07	2.00	1.01	.82	20.26	17.84	1294
3.23	3.49	1.64	8.36	7.00	6.72	6.00	2.12	.....	2.12	2.00	1.50	1.00	20.82	20.00	1461
														20.00	1836
5.56	4.82	.92	11.30	10.00	10.38	9.00	.80	1.30	2.10	2.00	*1.22	1.24	23.19	24.00	1830
4.57	5.77	1.79	12.13	9.00	10.34	8.00	2.78	.....	*2.78	4.00	*.80	.82	22.16	24.50	1831
6.73	1.66	.75	*9.14	10.00	8.39	8.00	.....	3.74	*3.74	4.00	1.73	1.65	25.92	25.00	1314
6.81	2.26	1.73	10.80	10.00	9.07	8.00	1.47	1.28	*2.75	3.00	1.28	.82	23.55	22.00	1312
6.62	3.95	2.14	12.71	10.00	10.57	9.00	.....	.61	*.61	1.00	.90	.82	21.07	21.00	1313
7.07	2.27	.78	10.12	10.00	*9.34	8.50	.....	2.23	2.23	1.50	1.43	.82	23.71	22.50	1311
1.77	5.91	3.24	10.92	8.00	7.68	7.00	4.11	.....	4.11	4.00	*1.12	1.24	24.00	26.00	1684
2.77	7.66	1.72	12.15	10.00	10.43	8.00	2.82	.....	2.82	2.00	1.38	.....	26.00	27.00	1685
4.69	2.63	.52	*7.84	9.00	*7.32	8.00	6.95	.....	*6.95	8.00	*1.35	1.65	26.00	27.00	1683
4.86	3.50	1.28	9.64	.....	8.36	8.00	1.20	.....	1.20	1.00	.98	.82	19.29	17.00	1919
														18.00	1261
														23.00	2046
5.49	4.26	1.42	11.17	10.00	9.75	8.00	6.00	.....	6.00	6.00	.93	.82	25.44	.....	1471
5.06	4.44	1.15	10.65	10.00	9.50	8.00	3.38	.....	3.38	3.00	1.11	.82	23.04	22.00	1817
3.49	6.06	.94	10.49	8.00	9.55	7.00	.96	.....	.86	.50	.64	.41	14.66	18.00	1818
4.75	4.41	.68	*9.84	12.00	*9.16	10.00	2.09	.....	2.09	2.00	.66	.....	19.14	14.00	2168
3.03	3.63	1.54	8.20	.....	*6.66	8.00	1.86	.....	*1.86	2.00	1.35	1.00	19.78	16.00	2131
6.69	5.09	2.58	14.36	.....	11.78	10.00	3.22	.....	*3.22	5.00	*1.08	2.00	25.90	22.00	2132
2.57	2.96	1.40	6.93	.....	*5.53	7.00	3.52	.....	3.52	3.00	*1.28	1.50	20.06	20.00	2167
4.35	3.91	2.28	10.54	9.00	8.26	7.00	2.58	.....	2.58	2.50	.90	.82	20.06	24.00	1338
														25.00	1642
4.30	4.14	1.76	10.20	9.00	8.44	8.00	2.34	.....	2.34	2.00	1.13	.82	21.38	22.00	2036
4.09	4.35	2.64	10.99	8.50	8.35	7.00	2.74	.....	2.74	2.50	1.33	1.24	22.98	27.00	2054
1.99	5.99	5.43	13.41	.....	7.98	6.00	2.05	.....	2.05	1.00	.66	.41	16.36	25.00	1688
4.86	5.09	2.93	12.88	8.00	9.95	7.00	2.44	.....	*2.44	3.00	2.04	1.65	27.56	25.00	2032
1.10	7.72	5.41	14.23	.....	*8.82	9.00	5.02	.....	5.02	5.00	*2.66	3.30	32.49	29.00	1954

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Eureka Fertilizer Co., Perryville, Md.		
1543	†Corn and Potato Special,	J. W. Littell, New Galilee,	7.30
2075		S. G. Matchett, Imperial,	
1187	Eureka Wrapper Leaf,	W. E. Urich, Myerstown,	7.78
1610	†Farmers' Favorite,	H. S. Sherbondy, Port Royal,	9.25
1186		W. E. Urich, Myerstown,	
1837		G. J. Jones, Ebensburg,	
2073		S. E. Matchett, Clinton,	
1196	Farmers' Favorite Bone Phosphate,	S. K. Beckley Jonestown,	7.26
2074	Fish, Bone and Potash,	S. G. Matchett, Clinton,	6.54
1629	Fish, Rock and Potash,	L. G. Landis, Swatara,	6.83
1384		John M. Hartman, Biglerville,	
1677		Louis H. Kirk & Co., Nottingham,	
1373	†Grain and Grass Mixture,	George E. Smick, York Springs,	8.03
1197		S. K. Beckley, Jonestown,	
1544		J. W. Littell, New Galilee,	
2189	Grain and Grass Mixture,	J. H. Bell, Jefferson,	9.21
1601	†Potato and Vegetable Fertilizer,	J. L. Kunkle, Irwin,	7.63
1383		John M. Hartman, Biglerville,	
1607		C. Funk, New Stanton,	
1676		Louis H. Kirk & Co., Nottingham,	
	Farmers' Fertilizer Co., Columbus, Ohio.		
1240	Ammoniated Bone and Potash,	Morris Speicker, Somerset,	9.73
	Farmers' Fertilizer Co., Westminster, Md.		
1433	No. 1 Bone Phosphate,	D. E. Brown, East Berlin,	9.02
1432	X. X. Bone Phosphate,	D. E. Brown, East Berlin,	10.35
	Farmers' Fertilizer Works, Elizabethtown, Pa.		
1456	Grain and Grass Special,	John L. Frye, Chambersburg,	8.34
1454	No. 1 Bone Phosphate,	John L. Frye, Chambersburg,	6.55
1453	Special Compound,	John L. Frye, Chambersburg,	7.40
	W. S. Farmer & Co., Baltimore, Md.		
1691	Harvest Queen Phosphate,	J. S. Waite & Co., Bellefonte,	12.50
	J. C. Fifield & Sons Co., Bakersville, N. J.		
1974	Fifield's Fish and Potash,	Amos Buckman, Southampton,	9.30
1973	Fifield's Mixture,	Amos Buckman, Southampton,	6.37
	Mahlon Fretz, Sellersville, Pa.		
1305	Standard Bone Phosphate,	Mahlon Fretz, Sellersville,	8.83
	Joseph Gawthrop, Kennett Square, Pa.		
2033	Champion Bone Phos. for Wheat and Grass,	Jos. Gawthrop, Westtown,	5.15
1657	Complete Ammoniated Bone Phos. for Wheat Special,	Jos. Gawthrop, Westtown,	6.39
	Griffith & Boyd, Baltimore, Md.		
1704	†Ammoniated Bone Phosphate,	Benjamin Limbert, Spring Mills,	11.59
1851		J. G. Varner, Elton,	
1748	†Cereal Bone Plant Food,	W. H. Kauffman, Mexico,	12.50
1850		J. G. Varner, Elton,	
1252	Farmers' Imperial Phosphate,	Robt. Walker, Garrett,	9.68
1359	†Farmers' Improved Phosphate,	G. H. Wolf's Sons, Mt. Wolf,	11.34
2158		M. J. Burkholder, Manheim,	
1561	†Harvest Queen Phosphate,	Shirrey & McLaughling, Beatty,	12.61
1702		Benjamin Limbert, Spring Mills,	
1366	†Royal Potash Guano,	Geo. E. Deitrich, York Springs,	10.28
2101		W. H. Heckert, Bakerstown,	
1415	Special Guano,	H. J. Van Dyke, Gettysburg,	9.35

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
1.71	7.43	1.95	11.09	.....	9.14	9.00	1.60	.....	*1.60	3.00	*.81	.82	19.51	24.00	1543
														19.00	2075
2.55	6.45	2.39	11.39	10.00	9.00	8.00	2.69	.....	*2.69	6.00	*1.59	2.47	24.37	26.00	1187
3.07	7.03	2.22	12.37	10.00	10.15	8.00	1.32	.....	*1.32	2.00	*1.09	1.65	21.79	20.00	1610
														21.00	1186
														20.00	1837
														20.00	2073
1.90	7.36	2.58	11.84	10.00	9.26	8.00	.89	.....	*.89	2.00	*1.25	1.65	21.24	20.50	1196
1.16	7.79	1.73	10.68	10.00	8.95	8.00	.89	.....	*.89	1.00	.53	.41	13.92	15.00	2074
1.26	7.67	1.43	10.36	10.00	8.93	8.00	1.09	.....	1.09	1.00	.52	.41	13.77	16.50	1629
														17.00	1384
														16.50	1677
														20.00	1373
3.67	6.53	2.08	12.28	10.00	10.20	8.00	1.21	.....	*1.21	2.00	.84	.82	20.65	18.00	1197
														20.00	1544
2.41	7.36	2.62	12.39	.....	9.77	.....	1.79	.....	1.79	.....	1.26	.....	23.71	20.00	2189
3.29	6.79	2.14	12.22	10.00	10.08	8.00	2.66	.....	*2.66	4.00	*.82	1.65	21.75	.....	1601
														25.00	1383
														22.50	1607
														22.00	1676
1.34	7.29	2.20	10.83	.....	8.63	.....	4.27	.....	4.27	.....	.83	.....	22.04	.....	1240
5.28	2.79	1.62	*9.69	11.00	*8.07	9.00	2.72	.....	2.72	2.00	2.20	1.65	26.11	24.00	1433
6.26	2.82	1.78	10.86	10.00	9.08	9.00	2.49	.....	*2.49	3.00	.89	.82	21.26	19.00	1432
.78	5.36	2.37	8.51	.....	*6.14	8.00	2.81	.....	*2.81	4.00	.85	.82	18.16	19.50	1456
1.04	4.65	1.68	*7.37	9.50	*5.69	8.00	2.96	.....	2.96	2.00	.80	.41	17.36	18.50	1454
.83	5.03	1.94	7.80	.....	*5.86	7.00	1.61	.....	1.61	1.00	*.72	1.24	15.80	15.00	1453
5.78	3.24	1.68	10.70	10.50	9.02	9.00	2.92	.....	2.92	2.00	1.14	1.03	22.65	22.00	1691
4.64	2.68	1.25	8.57	.....	7.32	6.00	3.64	.....	*3.64	4.00	2.85	1.65	28.95	29.00	1974
2.42	4.94	1.26	8.62	.....	7.36	5.00	3.21	.....	3.21	3.00	2.96	2.47	28.71	25.00	1973
1.87	5.94	1.33	9.14	8.00	7.81	7.00	1.32	.....	1.32	1.00	*.95	1.00	18.32	20.00	1305
3.01	4.51	3.95	11.47	5.50	7.52	5.00	2.09	.....	2.09	1.25	2.27	1.03	26.00	25.00	2033
4.04	2.91	1.73	8.68	5.50	6.95	5.00	2.83	.....	2.83	1.25	1.32	1.03	21.08	23.00	1657
6.18	3.20	1.80	11.18	9.00	9.38	8.00	2.17	.....	2.17	2.00	*1.46	1.65	23.67	22.40	1704
														24.00	1851
3.82	4.23	2.23	10.28	9.00	8.05	8.00	2.09	.....	2.09	2.00	.94	.82	20.04	17.75	1748
														22.50	1850
3.89	3.76	1.81	9.46	8.00	7.65	7.00	2.92	.....	2.92	1.50	*.64	.82	18.93	.....	1252
2.87	4.47	2.40	9.74	8.00	7.34	7.00	2.26	.....	2.26	1.50	*.58	.82	14.98	18.00	1359
														20.00	2158
5.99	2.76	2.21	10.96	10.50	*8.75	9.00	3.24	.....	3.24	3.00	1.13	1.03	23.00	.....	1561
														21.50	1702
1.81	5.71	2.10	9.62	9.00	*7.52	8.00	4.07	.....	4.07	4.00	.83	.82	20.73	19.50	1366
														22.00	2101
4.96	4.35	3.17	12.48	10.00	9.31	9.00	4.73	.....	*4.73	5.00	*1.69	1.85	27.86	25.00	1415

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	H. F. Hager, Quakertown, Pa.		
1968	Ammoniated Super Phosphate,	H. F. Hagar, Quakertown,	9.86
1969	Farmers' Favorite Phosphate,	H. F. Hagar, Quakertown,	10.25
1325	Panic Phosphate,	H. F. Hagar, Quakertown,	9.60
	Hardy Packing Co., Chicago, Ill.		
1538	Hardy's Crop Producer,	Jacob Goas, Freedom	4.45
1537	†Hardy's Potash Fertilizer,	Jacob Goas, Freedom,	11.68
1545		D. F. Patterson, New Galilee,	
1546	Hardy's Tankage Bone and Potash,	D. F. Patterson, New Galilee,	7.09
	S. M. Hess & Bro., Philadelphia, Pa.		
1392	†Ammoniated Bone Super Phosphate,	M. K. Brubacker, Myerstown,	11.67
1709		John Edmiston Cottage,	
1719	The Scientific Manure,	John Edmiston, Cottage,	9.58
1391		H. K. Hain Prescott,	
1371		J. W. Bream, Idaville,	
1317	†Wheat and Grass Manure,	J. A. Hartzell, Perkasie,	11.30
1393		M. K. Brubaker,	
1496		David Price, Everett,	
	P. Hoffman & Bro., Raubsville, Pa.		
1956	Hoffman's Grangers' Choice,	P Hoffman & Bro., Raubsville,	11.45
1955	Hoffman's King,	P. Hoffman & Bro., Raubsville,	10.50
	Hubbard Fertilizer Co., Baltimore, Md.		
1426		Sheffler & Frye, Hanover,	
1362	†Columbia Gem Phosphate,	E. Darron, Dover,	11.15
1764		W. F. Slagle, Bloomsburg,	
1355	Farmers' I. X. L. Super Phosphate, Manure Substitute.	Brillinger & Swartz, Emigsville,	13.48
1320		Harry C. Moyer, Blooming Glen,	
1303	†Hubbard's Oriental Phos. for Wheat and	J. R. Meck, Lickdale,	11.11
1363	Grass.	E. Darron, Dover,	
1396		J. Soope, Myerstown	
1763		W. F. Slagle, Bloomsburg,	
1304	†Hubbards' Wheat Growers' Jewel	J. R. Meck, Lickdale,	13.06
1943		Wesley Seltzer, Orwigsburg,	
	M. P. Hubbard & Co., Baltimore, Md.		
1242	†Farmers' Old Economy,	Hammond Broucher, Kingwood,	5.81
1381		E. W. Sours, Bendersville,	
	International Seed Co., Rochester, N. Y.		
1715	A. 1 Special Manure,	C F. Brown, Petersburg,	9.28
1603	Grain and Grass Fertilizer,	E. D. Findsman, Herminie,	12.88
1714	Potato and Truck Manure,	C. F. Brown, Petersburg,	11.86
	Jarecki Chemical Co., Sandusky, Ohio.		
1535	Fish and Potash Grain Special,	H. G. Hallstead, Freedom	13.65
2077		Allison & Hooper, Imperial,	
	Lancaster Chemical Co., Lancaster, Pa.		
2050	Flag Brand,	Geo. Johnson, Berwyn,	15.42
1297	Flag Brand Super Phosphate No. 5,	C. S. Zimmerman, Bismarck,	11.09
1288	General Crop Special No. 15,	C. S. Zimmerman, Bismarck,	9.83
1287	Keystone Brand No. 11,	C. S. Zimmerman, Bismarck,	12.33
1296		C. S. Zimmerman, Bismarck,	
2000	No. 6 Hard Times Fertilizer,	J. S. Balthouser, Mohrsville,	8.63
	Daniel Levan, Lebanon, Pa.		
1650	†Bone and Potash Compound,	H. Reigner & Co., Pottstown,	8.42
2127		J. D. Sellers, Ephrata,	
1402	†Lebanon Special Fertilizer,	Edon Hetrick, Palmyra,	11.15
2129		J. D. Sellers, Ephrata,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 13.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
7.10	3.66	1.82	12.58	10.00	10.76	8.00	4.17	.....	*4.17	4.50	2.78	2.47	33.13	28.50	1968
7.48	3.50	1.67	12.65	10.00	10.98	8.00	2.44	.....	2.44	2.00	1.64	1.24	26.48	22.00	1968
7.33	2.97	1.25	11.55	10.00	10.30	8.00	2.02	.....	2.02	1.00	1.13	.82	22.93	19.00	1325
.67	7.19	2.79	10.65	9.00	7.86	7.00	.97	.....	*.97	1.00	*‡.33	.82	11.17	22.00	1538
3.02	6.21	1.98	11.21	10.00	9.23	8.00	3.35	.....	*3.35	4.00	*.76	.82	21.31	24.00	1537
														24.00	1545
.95	7.57	2.75	11.27	10.00	8.52	8.00	2.13	.....	2.13	2.00	*.81	1.24	19.75	24.00	1546
4.70	3.58	1.68	9.96	9.00	8.28	8.00	2.05	.....	2.05	2.00	*1.62	1.65	22.92	22.00	1392
														23.00	1709
1.77	4.56	1.44	7.77	7.00	6.33	6.00	5.42	.....	5.42	5.00	1.30	1.24	22.64	23.00	1719
														19.00	1391
														20.00	1371
5.25	3.17	1.26	9.68	9.00	8.42	8.00	2.10	.....	2.10	2.00	.89	.82	19.89	20.00	1317
														20.00	1393
														21.00	1496
1.66	6.26	3.77	11.69	10.00	7.92	7.00	4.54	.....	*4.54	5.00	*.70	.82	18.46	22.00	1956
1.01	6.76	3.30	11.07	10.00	7.77	7.00	3.22	.....	3.22	3.00	*.62	.82	16.29	20.00	1955
														15.00	1426
.97	7.41	3.17	11.55	.....	8.38	8.00	1.14	.....	1.14	1.00	.56	.41	14.32	15.50	1362
														16.50	1764
1.67	6.35	1.79	9.81	.....	8.02	8.00	1.67	.....	*1.67	2.00	1.78	1.65	22.82	22.00	1355
														.....	1320
2.22	5.27	3.73	11.22	.....	*7.49	8.00	1.37	.....	1.37	1.00	.91	.82	18.99	17.50	1303
														18.00	1363
														16.50	1396
														22.00	1763
3.79	4.75	2.86	11.40	.....	*8.54	9.00	1.83	.....	*1.83	2.00	1.36	1.24	22.32	19.50	1304
														20.00	1943
6.92	2.63	.48	10.03	9.50	9.55	8.00	2.49	.....	2.49	2.00	.54	.41	16.15	16.00	1242
														17.50	1381
3.19	3.19	1.54	7.92	7.00	6.38	6.00	9.89	.....	*9.89	10.00	2.51	2.47	32.85	32.00	1715
7.15	3.34	2.55	13.04	11.00	10.49	10.00	2.26	.....	2.26	2.00	1.79	1.65	26.85	26.00	1603
4.91	3.33	1.54	9.78	9.00	8.24	8.00	7.94	.....	7.94	7.00	1.36	1.24	27.76	27.00	1714
3.76	5.78	1.39	10.93	10.00	9.54	9.00	2.12	.....	2.12	2.00	*1.07	1.24	21.51	23.00	1535
														21.50	2077
2.26	6.14	1.51	9.91	9.00	8.40	8.00	1.73	.....	*1.73	2.00	1.29	1.24	21.02	20.00	2050
3.88	4.34	1.89	10.11	9.00	8.22	8.00	1.96	.....	*1.96	2.00	*1.23	1.24	21.20	19.00	1297
5.54	4.17	2.30	12.01	9.00	9.71	8.00	4.59	.....	*4.59	6.00	*1.63	1.65	27.51	23.00	1288
2.23	5.37	.86	8.46	8.00	7.60	7.00	1.52	.....	1.52	1.00	.82	.82	17.47	17.00	1287
														17.00	1296
2.27	5.81	2.87	10.95	9.00	8.08	8.00	2.00	.....	2.00	2.00	.62	.41	15.27	16.00	2009
3.10	5.13	1.06	9.29	9.00	8.23	8.00	6.28	.....	6.28	5.00	1.72	1.65	27.18	25.00	1650
														21.00	2127
2.42	5.70	1.72	9.84	9.00	8.12	8.00	2.65	.....	2.65	2.00	*1.92	2.06	24.48	10.50	1402
														18.50	2129

*Constituent falls below guaranty. ‡Not included in valuation.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
1302	†Wheat and Grass Special,	Adam Gerhart, Myerstown,	10.03
1891		John K. Groh, Pine Grove,	
1195	†Wheat and Grass Fertilizer,	Adam Gerhart, Rehersburg,	12.11
1193		D. Levan, Lickdale,	
1892		John K. Groh, Pine Grove,	
	Lister's Agricultural Chemical Works, Newark, N. J.		
1211	†Ammoniated Dissolved Bone Phosphate,	W. E. Irwin, Sommerton,	12.20
1634		J. B. Groh, Lickdale,	
1337	Lister's Corn No. 2 Fertilizer,	A. L. Slotter, Doylestown,	10.85
2156	Potato No. 2 Fertilizer,	Levi K. Ziekler, Lititz,	13 11
1674	Pure Bone Super Phosphate of Lime,	Passmore & Gillespie, Nottingham,	12.96
1330	†Special Wheat Fertilizer,	E. J. Gerlach, Bethlehem,	10.61
1389		J. R. Meck, Jonestown,	
1347	†Standard Pure Bone Super Phos. of Lime	A. M. Grove & Co., Muddy Creek Fork	12.18
1717		C. L. Stryker, Petersburg,	
1938	Standard Pure Bone Super Phosphate,	M. L. Greenawald, New Ringgold,	13.08
1479	†U. S. Super Phosphate,	Frank Douglass, Indiana,	12.29
1329		E. J. Gerlach, Bethlehem,	
1937		M. S. Greenawald, New Ringgold,	
2051		Wm. H. Fritz, Berwyn,	
2155	Wheat and Rye Fertilizer,	Levi K. Zeikler, Lititz,	11.40
	Mapes Formula and Peruvian Guano Co., New York.		
1334	Mapes Cereal Brand,	J. S. Osterstock, Easton,	8.20
1228	Complete Manure, "A" Brand,	Henry S. Bidler, Doylestown,	10.25
1641	†Grain Brand,	E. W. Rupp, Shiremanstown,	9.15
1930		T. H. Updegrade, Valley View,	
	D. B. Martin Co., Philadelphia, Pa.		
2034	Crop Producer,	R. C. Fairland & Co., Brandywine Summit,	9.80
1609	Dissolved Organic Compound,	W. F. McKenery, West Newton,	14.11
1574		Harry Rutledge, Livermore,	
2043		Malvern Supply Co., Malvern,	
2136		J. G. Sprecher & Sons, Ephrata,	
1573	†One, Eight and Four,	Harry Rutledge, Livermore,	12.38
2082		S. H. Purdy, Murdocksville,	
2042	Pure Animal Bone and Potash,	Malvern Supply Co., Malvern,	6.95
1575	†Sure Grower,	Harry Rutledge, Livermore,	11.15
1460		Coyle & Diehl, Chambersburg,	
1859		Harry Keefer, Pine Grove,	
2137		J. G. Sprecher & Sons, Ephrata,	
	McCalmont & Co., Bellefonte, Pa.		
1690	McCalmonts $25 Champion Ammoniated Bone Super Phosphate.	McCalmont & Co., Bellefonte,	8.13
	Miller Fertilizer Co., Baltimore, Md.		
1348	†Ammoniated Dissolved Bone,	G. B. Murphy, Keys,	10.56
1682		H. T. Harkens, Oxford,	
1358	†Club Brand,	Brillinger & Swartz, Emigsville,	10.69
1405		Solomon Bashore, Jonestown,	
1403	†Harvest Queen,	Solomon Bashore, Jonestown,	9.62
1349		G. B. Murphy, Keys,	
1680		M. T. Harkins, Oxford,	
1404	†Hustler Phosphate,	Solomon Bashore, Jonestown,	10.14
1351		G. B. Murphy, Keys,	
1622		J. H. Kuntz, Shellsville,	
1681		M. T. Harkins, Oxford,	
1414	Special Potato Fertilizer,	D. A. Conover, Gettysburg,	9.28
1406	†W. G. Phosphate,	Solomon Bashore, Jonestown,	7.48
1357		Brillinger & Swartz, Emigsville,	
1623		J. H. Kuntz, Shellsville,	
	W. L. & H. L. Meyers, Doylestown, Pa.		
1226	Special Compound for all Crops,	W. L. & H. L. Myers, Doylestown,	8.68

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 13.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
1.78	6.79	1.81	10.38	9.00	8.57	8.00	1.56	.....	1.56	1.50	1.24	1.24	20.88	18.50	1302
														19.50	1891
6.94	2.53	.60	10.07	9.00	9.47	8.00	4.48	.....	4.48	1.50	*.74	1.24	22.53	20.00	1195
														20.00	1193
														16.00	1892
4.96	3.57	3.30	11.83	9.00	8.53	8.00	1.68	.....	1.68	1.50	*1.97	2.06	25.20	26.00	1211
														24.00	1634
7.66	2.45	2.55	12.66	12.00	10.11	10.00	3.96	.....	*3.96	4.00	1.80	1.65	28.27	.....	1337
6.88	2.58	2.04	11.50	11.00	*9.46	10.00	3.99	.....	*3.99	4.00	1.86	1.65	27.58	23.00	2156
5.73	3.79	3.22	12.74	.....	9.52	.....	2.42	.....	2.42	.....	2.45	.....	29.13	25.00	1674
5.30	3.12	3.14	11.56	9.00	8.42	8.00	3.30	.....	3.30	3.00	1.75	1.65	25.76	23.00	1330
														21.75	1389
6.32	3.15	3.15	12.62	11.00	9.47	9.00	2.34	.....	2.34	2.00	2.51	2.47	29.24	23.00	1347
														24.00	1717
6.53	3.37	2.76	12.66	11.00	9.90	9.00	2.28	.....	2.28	2.00	*2.35	2.47	28.81	23.45	1938
5.88	2.78	2.34	11.00	10.00	*8.66	9.00	2.30	.....	2.30	2.00	1.17	1.03	22.00	24.00	1479
														19.00	1329
														18.60	1937
														23.00	2051
4.95	3.37	3.14	11.46	9.20	8.32	8.00	3.23	.....	3.23	2.00	1.94	1.65	26.46	21.00	2155
2.88	4.07	1.63	8.58	8.00	6.95	6.00	3.36	.....	3.36	3.00	1.94	1.65	24.30	.....	1334
4.25	5.68	3.10	13.03	12.00	*9.93	10.00	2.93	.....	2.93	2.50	2.61	2.47	30.51	32.00	1228
4.07	4.05	1.19	9.31	.....	8.12	8.00	4.57	.....	4.57	4.00	.93	.82	22.11	24.00	1641
														.....	1930
4.39	5.17	2.56	*12.12	14.00	*9.56	10.00	1.28	.....	1.28	.....	1.14	1.03	21.76	18.00	2034
5.55	4.65	1.91	12.11	12.00	10.20	9.00	2.01	.....	2.01	2.00	1.19	1.03	23.14	21.00	1609
														22.00	1574
														19.50	2043
														20.00	2136
4.63	4.74	2.93	12.30	12.00	9.37	8.00	3.15	.....	*3.15	4.00	1.01	.82	23.04	22.00	1573
														23.00	2082
.15	7.35	10.98	18.48	.....	*7.50	16.00	2.37	.....	*2.37	2.50	1.71	1.65	26.85	26.00	2042
5.01	4.77	2.52	12.30	12.00	9.78	8.00	1.15	.....	1.15	1.00	1.07	.82	21.45	20.00	1575
														16.00	1460
														18.00	1859
														18.00	2137
6.57	2.72	1.19	10.48	10.00	9.29	8.00	4.03	.....	4.03	4.00	1.72	1.65	26.37	24.00	1690
4.74	3.32	.87	*8.93	9.50	8.06	8.00	2.79	.....	2.79	2.00	1.65	1.65	23.32	20.50	1348
														24.00	1682
4.48	4.07	1.01	9.56	9.50	8.55	8.00	2.18	.....	2.18	2.00	.46	.41	14.68	17.00	1358
														14.50	1405
7.17	2.57	.77	10.51	10.50	9.74	9.00	3.04	.....	3.04	2.75	1.03	1.03	22.76	21.50	1403
														20.00	1349
														23.00	1680
5.86	2.96	.68	9.50	9.50	8.82	8.00	1.41	.....	1.41	1.00	.96	.82	19.54	20 00	1404
														18.00	1351
														20.00	1622
														20.00	1681
6.76	2.34	.18	9.28	8.50	9.10	7.00	3.69	.....	*3.69	5.00	.86	.82	21.61	20.00	1414
6.09	2.07	.38	8.54	8.50	8.16	7.00	1.21	.....	1.21	1.00	.53	.41	13.84	17.50	1406
														17.00	1357
														18.00	1623
8.04	2.46	1.24	11.74	.....	10.50	10.00	2.12	.....	2.12	2.00	.90	.82	22.20	22.00	1226

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Samole Was Taken.	Moisture in 100 pounds.
	Nassau Fertilizer Co., New York.		
1997	†General Favorite,	Wm. Ohlinger, Shoemakersville,	12.98
1885		M. S. McElhinney, Pine Grove,	
1315		Bowen Bros., Perkasie,	
2013		O. L. Kerchner, Breingsville,	
2115		W. W. McClough, New Sheffield,	
1787	Gladiator for Truck and Potatoes,	John Ditizler, Milton,	9.65
1964	Nassua Practical,	Oliver Uhler, Easton,	10.65
1620	†Plow Brand,	Amos Kreider, Jonestown,	11.35
1908		W. I. Whey, Millersburg,	
1316	†Wheat and Grass Grower,	Bowen Bros., Perkasie,	13.25
1200		J. A. Becker, Avon,	
1619		Amos Kreider, Jonestown,	
1753		A. H. Ulsh, Millerstown,	
	Ohio Farmers' Fertilizer Co., Columbus, O.		
1530	†General Crop Fish Cuano,	W. S. McMinn, Darlington,	7.22
1513		B. F. McClure & Bro., Burgettstown	
1599		D. McAllister, Newlonsburg,	
1598	†Wheat Maker and Seeding Down,	D. McAllister, Newlonsburg,	11.13
1494		R. T. Smith, Saltsburg,	
2108		J. A. Little, Washington,	
	Oxford Packing Works, Oxford, Pa.		
1666	O. P. W. No. 2,	Wm. Hansen, Oxford,	8.33
1667	O. P. W. No. 4,	Wm. Hansen, Oxford,	12.42
	Oyler & Spangler, Gettysburg, Pa.		
1417	Gettysburg Fertilizer,	Spangler & Oyler, Gettysburg,	9.05
	Patapsco Guano Co., Baltimore, Md.		
1271	†Patapsco Grain and Grass Producer,	J. J. Lehman, Davidsville,	12.99
1914		Henry Kocher, Elizabethville,	
1272	Special Wheat Compound,	J. N. Kauffman, Davidsville,	11.63
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.		
1752	Insula Guano for Corn, Oats and Other Crops.	A. H. Ulsh, Millerstown,	11.85
1518	Levering's Ammoniated Bone,	J. R. Thinner, New Brighton,	10.79
1449	†Levering's Harvest Queen,	L. H. Leiter & Bro., Milnor,	10.00
1949		J. M. Hadesty & Son, Tamaqua,	
1910	†Pennsylvania Grain Grower,	Geo. M. Lenkert, Millersburg,	9.82
1248		Auston Baroone, Trent,	
2106		Jos. A. Little, Washington,	
1724	†Piedmont Economy,	J. C. Simpson, Huntington,	11.23
1448		L. H. Leiter & Bro., Milnor,	
1909		Geo. M. Lenkert, Millersburg,	
1420	†Piedmont Royal Ammoniated Bone and Potash.	H. D. & C. C. Bream, Gettysburg,	10.55
2107		Jos. A. Little, Washington,	
1723	Piedmont Success,	J. C. Simpson, Huntington,	10.35
	Pittsburg Provision and Packing Co., Pittsburg, Pa.		
1591	Pure Bone with Potash,	B. Way, Freeport,	4.12
	Pollock Fertilizer Co., Baltimore, Md.		
1697	†Pollock Owl Brand Guano,	J. F. Smith, Centre Hall,	9.80
2066		Robert Kerr, West Chester,	
1506	Special Potato and Tobacco Fertilizer,	J. A. C. Rider, Tyrone,	14.36
1401	†Special Wheat Grower,	Edward Bickel, Rehrersville,	11.03
1343		Strayer Bro. & Co., York,	
1696		J. F. Smith, Centre Hall,	
	Pugh & Lyon, Oxford, Pa.		
1664	Bone Phosphate,	S. R. Dickey & Co., Oxford,	7.36

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
														18.50	1997
														21.00	1885
6.36	2.54	.83	9.73	9.00	8.90	8.00	3.78	.....	*3.78	4.00	.97	.82	22.22	21.00	1315
														21.00	2013
														20.00	2115
5.00	2.40	.97	8.37	8.00	7.40	7.00	7.18	.....	7.18	7.00	*3.16	3.30	33.90	.....	1787
6.94	2.28	1.43	10.65	9.00	9.22	8.00	6.53	.....	6.53	6.00	2.60	2.47	33.02	26.00	1964
4.98	3.25	1.48	9.71	9.00	8.23	8.00	2.24	.....	2.24	2.00	1.68	1.65	23.46	20.00	1620
														20.00	1908
														20.00	1316
5.16	3.20	1.06	9.42	9.00	8.36	8.00	2.11	.....	2.11	2.00	.86	.82	19.47	17.50	1300
														18.00	1619
														18.00	1753
														20.00	1530
1.38	7.12	2.65	11.15	9.00	8.50	7.00	.90	.....	*.90	1.00	*‡.34	.82	11.55	22.00	1513
														18.00	1599
														19.00	1598
1.39	7.13	2.32	10.84	10.00	8.52	8.00	2.25	.....	*2.25	2.50	.46	.41	14.83	22.50	1494
														22.00	2108
4.78	2.97	.78	*8.53	10.00	7.75	7.00	6.87	.....	6.87	6.00	*1.63	2.47	27.12	24.00	1666
7.59	2.87	.53	*10.99	13.00	10.46	10.00	2.89	.....	*2.89	3.00	.46	.41	16.76	18.00	1667
5.72	1.62	.27	7.61	.....	*7.34	8.00	5.14	.....	5.14	5.00	*1.49	1.65	24.19	21.00	1417
4.70	3.91	1.02	*9.63	10.00	8.61	8.00	4.05	.....	4.05	4.00	.82	.82	21.40	22.00	1271
8.57	3.87	2.49	14.93	14.00	12.44	9.00	4.06	.....	4.06	2.50	1.95	1.85	31.38	19.50	1914
														25.00	1272
5.72	1.56	.56	7.84	.....	7.28	7.00	1.90	.....	*1.90	2.00	.50	.41	16.53	16.00	1752
5.93	2.86	.97	9.76	.....	*8.79	9.00	3.08	.....	3.08	3.00	.88	.82	21.19	21.00	1518
6.01	1.81	1.68	9.50	.....	*7.82	8.00	2.08	.....	2.08	2.00	.83	.82	19.35	19.50	1449
														23.00	1949
														19.25	1910
5.98	1.52	.66	8.16	.....	7.50	7.00	5.04	.....	5.04	5.00	1.02	.82	22.22	18.50	1248
														23.00	2106
														17.00	1724
7.31	2.66	.65	10.62	.....	*9.97	10.00	2.27	.....	*2.27	3.00	‡.36	.21	13.78	15.50	1448
														14.75	1909
6.02	1.62	.96	8.60	.....	7.64	6.00	2.95	.....						20.00	1420
									*2.95	3.00	*1.01	1.07	20.38		
														22.00	2107
6.73	2.24	.15	9.12	.....	*8.97	9.00	4.80	.....	*4.80	5.00	‡.29	.21	15.54	19.60	1723
1.55	5.72	8.50	15.77	14.00	*7.27	12.00	.....	4.29	4.29	3.00	2.75	2.47	33.01	28.00	1591
3.70	3.79	.59	8.08	.....	7.49	7.00	1.64	.....	1.64	1.50	.55	.41	16.46	18.00	1697
														18.00	2066
4.54	3.66	1.50	9.70	.....	8.20	8.00	4.27	.....	4.27	4.00	1.70	1.65	25.42	26.00	1503
														20.00	1401
4.92	3.48	1.17	9.57	.....	8.40	8.00	2.16	.....	2.16	2.00	.88	.82	19.80	18.00	1343
														20.00	1696
1.56	6.76	4.17	12.49	11.00	8.32	6.00	4.23	.....	*4.23	5.00	*1.56	1.65	25.80	20.00	1664

*Constituent falls below guaranty. ‡Not included in valuation.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Ramsburg Fertilizer Co., Frederick, Md.		
1370	Ammoniated Bone Phosphate,	Henry J. Trostel, York Springs,	12.50
1385	Excelsior Plant Food,	D. N. Deardorff, Gettysburg,	11.27
1369	Old Virginia Compound,	Henry J. Trostel, York Springs,	11.68
1368	Ramsburg's Queen,	Henry J. Trostel, York Springs,	12.44
	Rasin-Monumental Co., Baltimore, Md.		
1170	†Raisin's Empire Guano,	F. W. Archey, Penna. Furnace,	14.18
1382		F. A. Asper, Aspers,	
1270	Raisin's Wheat and Grass Producer,	Lewis Hochstetler, Winber,	10 03
	Reading Bone Fertilizer Co., Reading, Pa.		
1204	†Farmer's Bone and Potash,	Wm. H. Gingrich, Palmyra,	9.53
1200		L. H. Donkel, Myerstown,	
1230		Tobias Gayman, Plumsteadville,	
1282	†Gilt Edge Potato Grower,	Monroe Gingrich, Lebanon,	14.46
2062		Sinclair Bros., Norristown,	
1202	†Never Fail Crop Grower,	Wm. H. Gingrich, Palmyra,	8.40
1179		Michael Grow, Bellefonte,	
1284		Monroe Gingrich, Lebanon,	
1199	†Schuylkill Valley Favorite,	S. H. Donkel, Myerstown,	7.88
1180		Michael Grow, Bellefonte,	
1205		Wm. H. Gingrich, Palmyra,	
	J. G. Reichard & Bro., Allentown, Pa.		
1335	Surpass Phosphate,	L. A. Lerch, Bethlehem,	10.39
	H. E. Riddlemoser, McKnightstown, Pa.		
1388	Crop Grower,	H. E. Riddlemoser, McKnightstown,	9.60
1387	Harvest Queen,	H. E. Riddlemoser, McKnightstown,	10.88
1386	Standard Bone Phosphate,	H. E. Riddlemoser, McKnightstown,	11.16
	Schaal-Sheldon Fertilizer Co., Erie, Pa.		
1523	†Sheldon's Farmer's Favorite for Wheat Corn.	I. W. Scott & Co., Pittsburg,	9.56
1596		A. M. Shaw, Wiester,	
	The Scientific Fertilizer Co., Pittsburg, Pa.		
1246	†Economy Fertilizer,	R. R. Snyder, New Lexington,	7.30
1267		Lewis Hostetler, Winber,	
1243	†Scientific Bone, Meat and Potash Fertilizer.	Ross Snyder, New Lexington,	5.69
1585		C. H. Shipman, Leechburg,	
1253	†Scientific Grain Grower,	R. C. Heffley, Berlin,	7.10
1470		J. R. Henderson, Indiana,	
1255	†Scientific Wheat and Clover Fertilizer,	R. C. Heffley, Berlin,	7.90
1244		Levi Long, Trent,	
1583		C. H. Shipman, Leechburg,	
	Scott Fertilizer Co., Elkton, Md.		
2152	Scott's Grain Special,	Martin & Muth, Lititz,	10.08
2153	Scott's Standard Phosphate,	Martin & Muth, Lititz,	10.56
1295	†Scott's Sure Growth Super Phosphate,	Elias S. Brubacher, Richland,	10.72
1220		Hohensack Bros., Ivyland,	
2017		L. W. Fritch, Macungie,	
1942	Sure Growth Super Phosphate,	D. R. Stein, Orwigsburg,	11.85
2151	Scott's Wheat and Grass Grower,	Martin & Muth, Lititz,	12.58

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
6.20	4.71	1.36	12.27	12.00	10.91	10.00	1.50	.....	*1.50	2.00	*.74	.82	17.05	18.50	1370
7.02	4.43	1.47	12.92	11.00	11.45	9.00	1.65	.....	*1.65	2.00	*1.61	1.65	25.71	21.00	1385
8.07	4.21	.98	13.26	11.00	12.28	9.00	1.65	.....	*1.65	2.00	*1.04	1.24	23.96	19.00	1369
1.04	8.79	4.25	14.08	10.00	9.83	8.00	.83	.....	*.83	1.00	.43	.41	14.84	16.50	1368
4.09	4.18	1.75	10.02	9.50	8.27	8.00	2.26	.....	2.26	2.00	1.65	1.65	23.28	23.00	1170
														23.00	1382
2.59	6.11	2.39	11.09	9.00	8.70	8.00	3.67	.....	3.67	3.00	1.27	1.24	23.49	20.00	1270
														19.00	1204
2.09	4.88	1.71	*8.68	10.00	*6.97	8.00	2.39	.....	*2.39	4.00	*.55	.82	17.08	19.00	1200
														24.00	1230
4.26	4.92	2.23	11.41	7.00	9.18	5.00	5.55	.....	*5.55	10.00	*1.42	2.00	26.66	26.50	1282
														30.00	2062
														18.00	1202
1.99	5.24	2.36	9.59	8.00	7.23	6.00	1.17	.....	1.17	1.00	*.57	1.03	13.47	.....	1179
														17.00	1284
														16.00	1199
1.68	6.34	2.63	10.05	10.00	8.02	8.00	1.48	.....	*1.48	2.00	*.38	.41	13.47	.....	1180
														17.00	1205
8.36	4.20	2.23	14.79	11.00	12.56	10.00	2.00	.....	2.00	2.00	*1.58	1.65	27.68	22.00	1335
6.52	2.32	.24	9.08	.....	8.84	8.00	2.23	.....	2.23	2.00	.50	.50	15.10	17.00	1388
6.42	3.34	.84	10.60	.....	9.76	9.00	2.33	.....	2.33	2.00	*.90	1.00	21.33	19.00	1387
7.20	2.78	1.15	11.13	.....	9.98	9.00	2.77	.....	*2.77	3.00	*1.71	2.00	25.77	22.00	1386
														25.00	1523
3.33	5.56	1.90	10.79	9.00	8.89	8.00	2.37	.....	2.37	2.00	.92	.82	20.66	20.00	1596
5.01	4.35	2.27	11.63	10.00	9.36	9.00	3.99	.....	*3.99	4.00	*1.59	1.65	26.26	.....	1246
														26.00	1267
														29.00	1243
4.65	3.83	3.53	12.01	10.00	8.48	8.00	1.47	6.21	*7.68	8.00	*2.90	3.30	36.78	.....	1585
4.04	4.75	1.47	10.26	9.00	8.79	8.00	1.54	.....	1.54	1.00	.88	.82	19.62	21.00	1253
														18.00	1470
														.....	1255
5.20	3.83	1.07	10.10	10.00	9.03	9.00	4.07	.....	4.07	4.00	.85	.82	22.12	.....	1244
														.....	1583
5.33	3.98	1.30	*10.61	12.00	*9.31	10.00	4.54	.....	4.54	4.00	.78	.41	22.80	20.00	2152
6.30	2.76	2.09	11.15	10.00	9.06	8.00	3.75	.....	3.75	2.00	1.55	1.24	25.57	21.50	2153
														22.00	1295
7.67	2.70	1.91	12.28	12.00	10.37	10.00	3.57	.....	3.57	3.00	1.70	1.65	27.39	24.00	1220
														22.00	2017
7.61	3.18	1.35	12.14	12.00	10.79	10.00	3.68	.....	3.68	2.00	.77	.41	21.46	22.00	1942
7.51	2.72	.99	*11.22	12.00	10.23	10.00	2.48	.....	2.48	3.00	2.06	1.65	29.22	19.50	2151

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	M. L. Shoemaker & Co., Phila., Pa.		
1192	†Good Enough Superphosphate,	Aaron Bicksler, Fredericksburg,	13.68
2010		Schlegel Adams and Co., Fleetwood,	
1319		Oliver P. Stecker, Bethlehem,	
1188	†New Jersey Special for Wheat and Clover	Aaron Bicksler, Fredericksburg,	9.05
1626		J. B. Shaeffer, Vian,	
1219		Hobensack Bros., Ivyland,	
1190	†Swift Sure Guano for Fall Trade,	Aaron Bicksler, Fredericksburg,	10.74
1636		Peter Boltz, Black Oak Hill,	
1210		W. E. Erwin, Somerton,	
1189	†Swift Sure Superphos. for General Use,	Aaron Bicksler, Fredericksburg,	10.15
1953		A. F. Spittler, Pine Grove,	
2038		M. L. Shoemaker, Philadelphia,	
	F. A. Simon, Maud P. O., Pa.		
1976	Farmer's Favorite H. G. Phos. for General Use.	F. A. Simon, Cornwells,	8.14
	Southern Fertilizer Co., York, Pa.		
1376	Export Bone and Potash,	Howard M. Bream, York Springs,	6.15
1375	Royal Wheat and Grass Grower,	Howard M. Bream, York Springs,	11.68
	Swift & Co., Chicago, Ill.		
1560	Pure Truck Grower,	Peter Saxman, Latrobe,	3.89
	Taylor Provision Co., Trenton, N. J.		
1975	Taylor's A. D. B. Special for Oats, Corn, Wheat and Rye.	Amos Buckman, Southampton,	9.31
	I. P. Thomas & Sons Co., Phila., Pa.		
1407	†Improved Superphosphate,	Edward Shuey, Lickdale,	12.88
1336		T. C. Bachman, Hellertown,	
1897		Jonathan Walburn, Orwigsburg,	
1710	Tip Top Raw Bone Superphosphate,	Wm. Miller, Saltsburg,	11.68
1613	†Wheat and Corn Fertilizer,	Compton & Liley, Troy,	11.80
1435		A. J. Arbold, Bermudian,	
1308		A. C. Snyder, Tohickon,	
1640		E. W. Rupp, Shiremanstown,	
1711		Wm. Miller, Saltsburg,	
	James Thomas, Williamsport, Pa.		
1728	Special Compound for Wheat, Oats, Corn and Grass.	L. M. Watt, Belleville,	11.90
	Trenton Bone Fertilizer Co., Trenton, N. J.		
1215	Trenton Grain Manure,	L. A. Howells, Morrisville,	5.88
	F. W. Tunnell & Co., Phila., Pa.		
1862	Ammoniated Bone and Potash,	Jos. Emerick, Pine Grove,	13.18
1868	†Ammoniated Dissolved Bone and Potash,	Frank Rubert, Cressona,	13.38
1658		Wilson & Mendenhall, Toughkennom	
1214		Morris T. Briggs, Woodburn,	
1991		J. S. Lenhert, Hamburg,	
2024		Wm. M. Gehman, Macungie,	
1992	†Resieved Phosphate,	J. S. Lenhert, Hamburg,	9.80
1231		Geo. L. Fretz, Plumsteadville,	
2021		Wm. M. Gehman, Macungie,	
1306	Royal Wheat Grower,	E. S. Yost, Perkasie,	9.65
	Tuscarora Fertilizer Co., Baltimore, Md.		
1768	†Tuscarora Standard Phosphate,	J. W. Painter, Lewisburg,	7.93
1812		Seep Bros., Oil City,	
1772	†Tuscarora York State Special,	J. W. Painter & Co., Lewisburg,	9.93
1507		J. A. C. Rider, Tyrone,	
2089		F. G. Ewing, Frankfort Springs,	
	J. E. Tygert Co., Philadelphia, Pa.		
1965	Bone Phosphate,	W. O. Minnich, Cherryville,	11.85
1281	Prolific Phosphate,	A. K. Brown, Myerstown,	9.25
2025	Standard Bone Phosphate,	S. C. Walker & Co., Chadds Ford,	9.53

†Composite sample.

LIZERS--Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
6.72	3.35	3.14	13.21	12.00	10.07	8.00	2.75	.....	2.75	2.00	1.77	1.65	26.95	23.85	1192
														25.00	2010
														23.00	1319
4.63	4.42	2.88	11.93	.....	9.05	8.00	2.32	.....	2.32	2.00	1.38	1.03	23.61	21.80	1188
														20.00	1626
														26.00	1219
6.44	3.73	2.66	12.83	.....	10.17	8.00	5.53	.....	5.53	5.00	1.85	1.65	30.13	24.85	1190
														25.00	1636
														21.00	1210
6.89	3.07	2.92	*12.88	14.00	9.96	9.00	5.89	.....	5.89	4.50	*2.81	2.88	34.68	31.85	1189
														31.00	1953
														32.00	2038
3.52	3.84	2.22	9.58	9.00	7.36	7.00	3.26	.....	3.26	3.00	*1.75	2.06	24.08	24.00	1976
4.37	3.65	4.34	12.36	.....	8.02	.....	2.49	.....	2.49	.....	1.82	.....	25.24	.....	1376
4.31	3.70	1.07	9.08	9.00	8.01	8.00	1.14	.....	1.14	1.00	.53	.41	13.74	17.75	1375
3.86	3.90	1.69	9.45	.....	7.76	.....	.....	3.72	3.72	.....	.81	.....	21.12	.....	1560
5.25	4.56	2.21	12.02	10.00	9.81	8.00	5.48	.....	5.48	5.00	*1.38	1.24	27.33	23.50	1975
														20.00	1407
7.26	3.37	.79	11.42	11.00	10.63	10.00	1.27	.....	1.27	1.00	1.07	.82	21.78	.....	1336
														20.00	1897
6.38	2.40	.68	9.46	9.00	8.78	8.00	4.00	.....	4.00	4.00	2.58	2.47	29.55	30.00	1710
														24.00	1613
														20.00	1435
5.88	3.54	.54	*9.96	10.00	9.42	9.00	3.16	.....	3.16	3.00	.93	.82	21.84	20.00	1308
														19.00	1640
														.....	1711
5.56	4.69	1.62	*11.87	13.00	10.25	9.00	2.15	.....	2.15	2.00	1.18	1.03	23.20	23.50	1728
2.46	5.77	3.65	11.88	.....	8.23	8.00	3.94	.....	3.94	3.00	1.91	1.65	26.84	22.00	1215
.79	6.15	1.44	*8.38	10.00	*6.94	9.00	2.06	.....	2.06	2.00	.70	.21	17.06	18.00	1862
														20.00	1868
														19.00	1658
.73	6.04	1.70	*8.47	10.00	*6.77	9.00	2.15	.....	2.15	2.00	.64	.21	16.87	22.00	1214
														19.00	1991
														18.50	2024
														17.00	1992
1.11	5.14	.85	*7.10	9.00	*6.25	8.00	1.56	.....	1.56	1.00	.50	.41	14.74	.....	1231
														17.50	2021
1.75	6.65	1.22	*9.62	10.00	*8.40	10.00	2.02	.....	2.02	1.00	*.77	.82	18.63	20.00	1306
5.21	3.51	1.91	10.63	10.00	8.72	8.00	2.41	.....	2.41	2.00	1.67	1.65	24.13	21.00	1768
														20.00	1812
														21.00	1772
5.30	2.94	1.31	*9.55	10.00	8.24	8.00	4.42	.....	4.42	4.00	.94	.82	22.29	22.50	1507
														23.00	2089
5.82	3.07	1.64	*10.53	11.00	*8.89	9.00	2.23	.....	*2.23	2.50	2.19	1.85	26.50	26.00	1965
2.57	5.40	1.12	9.09	8.00	7.97	7.00	1.48	.....	1.48	1.00	.51	.50	13.66	16.50	1281
3.53	4.63	1.33	*9.49	9.50	8.16	8.00	2.13	.....	2.13	2.00	1.85	1.65	23.74	25.00	2025

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Virginia-Carolina Chemical Co., Baltimore, Md.		
1462	V. C. C. Co. National Ammoniated Guano,	A. F. Stutzeman, Johnstown,	7.14
1239	V. C. C. Co. Stand. Corn and Grain Grower,	J. F. Rhoades, Somerset,	11.71
	F. K. Walt & Co., Reading, Pa.		
1883	†Ammoniated Bone Phosphate,	Lewis Heffner, DeTurksville,	8.06
1643		I. J. Tuskin, Phoenixville,	
1961		Oliver Uhler, Stockertown,	
2121		F. K. Walt Co., Geigertown,	
1644	Calcine Bone Superior Phosphate,	I. J. Tusin, Phoenixville,	8.77
2057	Special H. G. Clover and Potato Brand,	H. Supplee & Son, Conshohocken,	9.35
1331	Sure Growth Phosphate,	Austin Knouse, Nazareth,	5.37
	Walker, Stratman & Co., Pittsburg, Pa.		
1845	†Big Bonanza,	I. J. Wissinger, Lovett,	7.65
1555		D. P. Green & Son, Shippingport,	
2112		R. J. Wallace, Canonsburg,	
1556	†Fourfold Fertilizer,	D. P. Green & Son, Service,	7.36
1533		Ed. Conkle Darlington,	
1828		S. F. Weeter, Emlenton,	
1846		I. J. Wissinger Lovett,	
1826	†Grain King,	S. T. Weeter, Emlenton,	9.05
1612		G. F. Newel, Mt. Pleasant,	
2079		S. J. Stewart, Clinton,	
2197	Grain Manure,	J. W. Hewitt's Son, Carmichaels,	10.23
1602	Welcome Brand Big Bonanza Fertilizer,	H. H. Wray, Circleville,	8.55
1844	Welcome Brand Grain King Fertilizer,	I. J. Wissinger, Lovett,	7.60
	Wengert & Gingerich, Jonestown, Pa.		
1298	†W. and G. Keystone Brand,	John Wengert, Jonestown,	12.78
1398		M. Gingrich, Lebanon,	
	W. E. Whann, William Penn, Pa.		
2001	Chester Valley Available Am. Phosphate,	Geo. K. Linderman, Scarlet Mills,	9.25
	Robt. A. Wooldridge & Co., Baltimore, Md.		
1794	†Champion Giant Phosphate,	C. C. Catharmine, Hartleton,	12.99
1165		W. W. Tate, Bellefonte,	
1799		S. G. Updegraff, Williamsport,	
1164	Chieftain Bone Stock Phosphate,	W. W. Tate, Bellefonte,	12.44
1797	Farmer's Favorite Cereal Compound,	S. G. Updegraff, Williamsport,	8.40
	Wooldridge Orchilla Co., Baltimore, Md.		
2139	Bizzy Bee,	E. O. Hecker, Ephrata,	7.73
2126	Faultless Ammoniated Bone Phosphate,	E. O. Hecker, Ephrata,	10.06
1737	†Old Hickory Phosphate,	A. W. Nale, Milroy,	10.04
2140		E. O. Hecker, Ephrata,	
1731	†Tiger Bone Stock Phosphate,	G. L. Peachy, Belleville,	9.00
2125		E. O. Hecker, Ephrata,	
	Worcester Farmer's Union, Worcester, Pa.		
1229	Farmer's Union Fertilizer,	Samuel Gross, Dublin,	9.89
	York Chemical Works, York, Pa.		
1629	†Dempwolf's Harvest Queen,	Early & Look, Linglestown,	9.98
1442		Lewis Law, Dillsburg,	
1743		H. M. Owens & Co. Lewistown,	
1442	†Dempwolf's Plow Brand,	Lewis Lau, Dillsburg,	11.04
1638		Early & Look, Linglestown,	
1706	†Dempwolf's Prosperity,	L. Rhone, Centre Hall,	11.81
1783		Laurelton Store Co., Laurelton,	
1747	Dempwolf's Standard Fertilizer,	W. E. McMeen, Port Royal,	11.06

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.				
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
4.02	3.91	2.48	10.41	9.50	*7.93	8.00	4.88	.....	4.88	4.00	1.16	.82	23.78	23.00	1462
.70	6.41	1.93	9.04	9.00	*7.11	8.00	3.06	.....	3.06	2.00	.71	.41	18.45	16.00	1239
3.34	4.65	2.82	10.81	9.00	*7.99	8.00	3.44	.....	3.44	1.00	.57	.50	16.58	18.00	1883
														21.00	1643
														16.00	1961
														19.00	2121
2.64	6.45	2.64	11.73	9.50	9.09	8.50	2.84	.....	2.84	2.00	*.78	1.65	21.19	25.00	1644
3.06	5.90	2.82	11.78	9.00	8.96	7.00	5.15	.....	*5.15	8.00	*.98	1.65	24.43	23.00	2057
1.52	6.42	3.47	11.41	10.10	*7.94	9.00	2.38	.....	2.38	2.00	*.54	1.24	15.50	15.75	1331
4.68	3.46	2.66	10.80	10.00	*8.14	9.00	3.95	.....	*3.95	4.00	*1.52	1.65	24.75	27.00	1845
														24.00	1555
														24.00	2112
4.23	3.94	1.30	9.47	9.00	8.17	8.00	2.44	.....	2.44	2.00	*1.05	1.65	20.52	20.00	1536
														21.00	1533
														23.00	1828
														23.00	1846
4.45	4.01	1.39	*9.85	10.00	*8.46	9.00	3.63	.....	*3.63	4.00	.88	.82	21.44	23.00	1826
														.....	1612
														19.50	2079
5.46	3.60	1.28	10.34	9.00	9.06	8.00	2.54	.....	2.54	1.00	1.60	.82	24.08	20.00	2197
4.85	4.04	1.77	10.64	10.00	*8.87	9.00	3.80	.....	*3.80	4.00	1.67	1.65	25.58	23.00	1602
5.62	3.90	.99	10.51	10.00	9.52	9.00	4.55	.....	4.55	4.00	1.03	.82	23.98	26.00	1844
1.48	7.01	1.78	10.27	9.00	8.49	8.00	1.22	.....	1.22	1.00	.94	.82	19.03	18.00	1298
														16.00	1398
4.36	3.00	1.12	8.48	.....	7.36	7.00	3.02	.....	3.02	3.00	1.20	1.00	20.92	20.00	2001
5.57	2.99	1.29	*9.85	10.50	*8.56	9.00	2.09	.....	2.09	2.00	.95	.82	20.28	18.00	1794
														20.00	1165
														23.00	1799
4.97	3.05	1.59	9.61	9.50	8.02	8.00	2.22	.....	2.22	2.00	*1.54	1.65	22.58	24.00	1164
2.36	4.57	.56	7.49	8.00	*6.93	7.00	2.21	.....	2.21	2.00	.55	.41	16.32	18.00	1797
5.39	2.36	.49	8.24	8.00	7.75	7.00	1.50	.....	1.50	1.00	1.16	.82	19.38	17.00	2139
5.54	3.27	.93	*9.74	10.00	8.81	8.00	2.43	.....	2.43	2.00	*1.50	1.65	23.13	21.50	2126
5.66	2.74	1.02	*9.42	9.50	8.40	8.00	2.99	.....	2.99	2.50	*.81	.82	20.24	20.00	1737
														20.00	2140
5.66	3.76	.98	10.40	9.50	9.42	8.00	4.37	.....	*4.37	4.50	1.27	1.03	24.58	22.00	1731
														22.00	2125
4.48	5.10	1.58	11.16	.....	*9.58	10.00	4.16	.....	*4.16	6.00	1.67	1.65	26.47	20.40	1229
4.02	4.42	.82	9.26	9.00	8.44	8.00	2.07	.....	2.07	2.00	*.69	.82	18.58	18.00	1639
														19.00	1442
														20.00	1743
3.99	4.80	.69	*9.48	10.00	8.79	8.00	2.03	.....	2.03	2.00	*1.41	1.65	21.97	21.50	1443
														21.00	1638
4.92	4.10	.55	*9.57	10.00	9.02	9.00	3.62	.....	3.62	3.00	*.78	.82	21.12	18.75	1706
														20.50	1783
3.86	4.94	.34	*9.14	10.00	8.80	8.00	4.97	.....	*4.97	5.00	*1.48	1.65	25.20	.....	1747

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Henry S. Zook, Elverson, Pa.		
1735	†No. 5 Pride of Chester Corn, Oats and Wheat Phosphate.	M. K. Stoltzfus, Belleville, ...	11.60
2147		Henry S. Zook, Joanna, ...	
2148	No. 6 Pride of Chester Dis. Animal Bone Phosphate.	Henry S. Zook, Joanna, ...	9.11
2149	No. 7 Pride of Chester Dis. Animal Bone Phosphate.	Henry S. Zook, Joanna, ...	7.45

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
7.94	2.40	1.10	11.44	11.00	10.34	10.00	2.40	.....	2.40	2.00	.58	.50	17.07	19.00	1735
5.20	3.24	2.37	10.81	9.00	8.44	8.00	3.53	.....	3.53	3.00	1.52	1.24	24.55	18.05 22.80	2147 2148
1.87	5.29	3.14	10.30	9.00	*7.16	8.00	6.67	.....	6.67	6.00	1.84	1.65	28.41	25.65	2149

*Constituent falls below guaranty.

ROCK AND POTASH

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	American Agricultural Chemical Co., New York.	
1464	†Gem Alkaline Phosphate,	Syles, Miller & Co., Martinsburg,
1161		J. H. and S. E. Weber, Boalsburg,
1505		H. L. Ore, Tyrone,
1925	Schuylkill Co. Grange Fertilizer No. 1,	J. H. Schrope, Hegins,
1766	Superior Potash Mixture,	J. H. Case & Co., Riverside,
	Canton Chemical Branch, Baltimore, Md.	
1867	Soluble Alkaline Bone,	Lewis Heffner, Pine Grove,
	Clark's Cove Branch, New York.	
1793	Clark's Cove Triumph Bone and Potash,	Peter House, New Columbia,
	Lazaretto Guano Branch, Baltimore, Md.	
1491	†Lazaretto High Grade Dissolved Bone and Potash.	N. T. Beatty, Saltsburg,
1424		Hanover Produce Co., New Oxford,
1567		T. Bolen, Livermore,
1278	Lazaretto High Grade Dis. Bone and Potash	Daniel Maust, Somerset,
	Milsom Branch, E. Buffalo, N. Y.	
1821	†Milsom's Dissolved Bone and Potash,	E. E. Tribby, West Middlesex,
1207		Jacob Y. Umberger, East Hanover,
1989		Jacob Hollenbach, Hamburg,
	Moro-Phillips Branch, Phila., Pa.	
1739	Moro Philips Alkaline Bone Phosphate,	W. J. Taylor, Reedsville,
1570	†Moro-Phillip's Wheat Special,	Nesbitt & Miller, Livermore,
1301		Levi Donkel, Cross-Kill Mills,
2011		W. H. H. Meckley, Alburtis,
	Quinnipiac Branch, New York.	
1999	Big Crop Phosphate,	....., Mohrsville,
	Reese Branch, Baltimore, Md.	
1322	Reese's Crown Phosphate and Potash,	M. H. Hinkle, Trumbaeursville,
1890	Reese's Wheat Special,	Harry Heefer, Pine Grove,
1341		Frank Lauer, Dover,
2028		William C. Ball, Media,
	Susquehanna Branch, Baltimore, Md.	
1652	Susquehanna Gem Alkaline Phosphate,	R. A. Richards & Co., Mendenhall,
	Tygert-Allen Branch, Philadelphia, Pa.	
2200	Tygert-Allen Star Soluble Bone and Potash,	G. W. Hewitt & Son, Carmichaels,
	Williams & Clark Branch, New York.	
1588	†Williams & Clark's Dis. Bone Phosphate,	McConnell and Lucken, Kittanning,
1489		N. T. Beatty, Saltsburg,
1699		Ed. Corl, State College,
	Zell Branch, Baltimore, Md.	
1595	†Zell's Electric Phosphate,	John Hill, Apollo,
1378		D. B. Myers, Idaville,
1760		W. V. Shirk, Oakland Mills,
	Armour Fertilizer Works, Chicago, Ill.	
1878	Amour's Bone and Potash No. 2,	Heffner an Luckenbill, Friedensburg,
1458	†Amour's Phosphate and Potash No. 1,	Coyle and Deihl, Chambersburg,
1279		Beerits & Sons, Somerset,
1478		Frank Douglass, Indiana,
1571		Nesbitt & Miller, Livermore,
2181	Phosphate and Potash,	Keener Bros., Uniontown,

†Composite sample.

FERTILIZERS.

Acid and Potash.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
6.93	3.31	3.24	.37	*6.92	7.00	6.55	6.00	3.33	.....	3.33	3.00	12.28	13.00	1464
													14.00	1161
													15.00	1505
11.83	9.67	2.33	.73	12.73	.....	12.00	.....	4.89	.....	4.89	.....	18.04	17.00	1925
10.50	9.48	3.04	.32	*12.84	14.00	*12.52	13.00	5.93	.....	*5.93	6.00	19.26	19.00	1766
14.19	9.37	2.95	.80	13.12	13.00	12.32	12.00	2.96	.....	*2.96	3.00	16.21	16.00	1867
11.14	6.25	3.25	.45	*9.95	11.00	*9.50	10.00	2.00	.....	2.00	2.00	13.06	15.00	1793
11.28	8.58	3.99	1.11	13.68	11.00	12.57	10.00	4.71	.....	4.71	2.00	18.19	23.00	1491
													17.00	1424
													18.00	1567
10.76	10.44	2.68	.63	13.75	13.00	13.12	12.00	4.71	.....	*4.71	5.00	18.56	.....	1273
11.60	6.40	4.03	1.10	11.53	11.00	10.43	10.00	2.15	.....	2.15	2.00	14.04	16.00	1821
													11.68	1207
													13.00	1989
10.39	6.20	5.08	.23	11.51	11.00	11.28	10.00	2.05	.....	2.05	2.00	14.08	.....	1739
11.60	1.78	8.28	.99	11.05	11.00	10.06	10.00	2.10	.....	2.10	2.00	13.16	15.00	1570
													16.00	1301
													18.00	2011
9.30	3.42	5.31	.79	9.52	.....	8.73	.....	5.34	.....	5.34	.....	15.78	17.50	1999
12.54	6.69	4.64	1.06	12.39	12.00	11.33	11.00	2.09	.....	2.09	2.00	14.55	15.00	1322
													14.00	1890
11.90	7.17	3.03	.57	*10.77	11.00	10.20	10.00	2.30	.....	2.30	2.00	13.94	13.00	1341
													20.00	2028
6.90	3.12	3.59	.35	*7.06	11.00	*6.71	10.00	3.69	.....	3.69	2.00	12.70	14.00	1652
10.31	4.37	5.96	.93	11.26	11.00	10.33	10.00	2.04	.....	2.04	2.00	13.54	16.50	2200
12.38	5.71	4.52	1.05	11.28	11.00	10.23	10.00	2.11	.....	2.11	2.00	13.77	20.00	1588
													19.00	1489
													14.50	1699
9.75	6.50	4.36	.88	11.74	11.00	10.86	10.00	2.05	.....	2.05	2.00	14.11	22.00	1595
													14.00	1378
													.....	1760
9.94	5.04	3.21	.63	*8.88	10.00	8.25	8.00	4.86	.....	*4.86	5.00	15.14	16.00	1878
													12.50	1458
9.12	8.29	2.15	.66	*11.10	12.00	10.44	10.00	2.08	.....	2.08	2.00	14.06	16.50	1279
													18.00	1478
													15.00	1571
9.80	7.98	4.55	.69	13.22	12.00	12.53	10.00	2.18	.....	2.18	2.00	15.36	16.40	2181

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Baltimore Pulverizing Co., Baltimore, Md.	
2116	Penniman's Excelsior,	I. G. Derringer, Smith's Ferry,
2092	Special Fall Mixture,	J. M. Cillisen, Hookstown,
	Baugh & Sons Co., Phila., Pa.	
1289	Special Farmer's Mixture,	S. K. Imboden & Son, Annville,
1178	Baugh's 10x4,	John W. Eby, Zion,
	Bowker Fertilizer Co., Boston, Mass.	
1395	†Bowker's Empire State Bone and Potash,	Daniel Bensing, Cross-Kill Mills,
1225		Wilson F. Myers, Pipersville,
1823		Gustus Fogal, West Middlesex,
1512	Bowker's Superphosphate with Potash for Grass and Grain.	B. F. McClure & Bro., Burgettstown,
1733	†Bowker's Superphosphate with Potash,	Wilson & MacClay, Belleville,
1624		Christian Cassel, Hummelstown,
1777		W. H. Weidensaul, Millmont,
1960		Henry Stahl, Banger,
1727	Bowker's Wheat Grower,	B. F. Frick, Huntingdon,
	E. Frank Coe, New York.	
1310	Famous Prize Brand Grain and Grass Fertilizer.	George B. Moyer, Bedminsterville,
	Henry Cope & Co., Lincoln University, Pa.	
1686	High Grade Soluble Bone and Potash,	Henry Cope & Co., Lincoln University,
1687	Reg. Soluble Bone and Potash,	Henry Cope & Co., Lincoln University,
1671	Soluble Bone and Potash,	Passmore & Gillespie, Barnsley,
	Eureka Fertilizer Co., Perryville, Md.	
1374	†Alkaline Bone and Potash,	George E. Smick, York Springs,
1198		S. K. Beckley, Cross-Kill Mills,
1565		Harry Rutledge, Livermore,
	Griffith & Boyd, Baltimore, Md.	
1911	Potash Manure,	J. J. Coleman, Gratz,
1265	†Special Grain Grower,	J. Crissman, Windber,
1757		Kepp & Moore, Mexico,
1749	†X. X. Potash Manure,	N. H. Kauffman,
1446		Spera Bros., Dillsburg,
2093		Wm. H. Heckert, Bakerstown,
	S. M. Hess & Bro., Philadelphia, Pa.	
1390	†Emperor Phosphate,	H. K. Hain, Mt. Zion,
1409		Adam Yeagley, Jonestown,
	Hubbard Fertilizer Co., Baltimore, Md.	
1457	†Special Mixture of Bone and Potash,	Coyle & Diehl, Chambersburg,
1364		E. Daron, Dover,
1708		Wm. Thompson, Lemont,
	Lancaster Chemical Co., Lancaster, Pa.	
2164	Economical Fertilizer,	M. J. Burkholder, Manheim,
1436	Phosphoric Acid and Potash Special,	C. J. Bushey, Dillsburg,
	Daniel Levan, Lebanon, Pa.	
2130	Soluble Bone and Potash,	J. D. Sellers, Ephrata,
	Miller Fertilizer Co., Baltimore, Md.	
1413	†Clinch Phosphate, Rock and Potash,	D. A. Conover, Gettysburg,
1679		M. T. Harkins, Hickory Hill,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
10.83	3.66	6.21	.99	10.86	.....	*9.87	10.00	3.13	.....	3.13	2.50	14.32	15.00	2116
6.93	1.15	7.10	1.40	9.65	.....	8.25	8.00	1.26	.....	1.26	1.00	11.26	14.50	2092
12.23	6.00	4.22	1.53	11.75	.....	10.22	.....	4.39	.....	4.39	.....	16.29	17.00	1289
11.73	6.84	4.26	.66	11.76	.....	11.10	.....	3.97	.....	3.97	.....	16.16	.....	1178
10.08	3.71	4.95	.79	9.45	9.00	8.66	8.00	3.79	.....	3.79	3.00	14.20	14.50	1395
													.....	1225
													18.00	1823
10.80	4.79	5.27	1.38	11.44	11.00	10.06	10.00	1.94	.....	1.94	1.00	13.51	19.00	1512
9.88	6.01	4.39	.65	11.05	11.00	10.40	10.00	1.17	.....	1.17	1.00	12.78	18.00	1733
													15.00	1624
													14.50	1777
													.....	1969
10.25	6.18	4.22	.36	*10.76	11.00	10.40	10.00	1.15	.....	1.15	1.00	12.69	18.00	1727
13.04	7.93	4.01	2.27	14.21	12.00	11.94	10.50	.93	.74	*1.67	2.00	15.16	17.50	1310
8.29	.95	7.51	2.39	*10.85	11.00	*8.46	10.00	3.81	.....	*3.81	4.00	14.32	16.00	1686
8.38	1.07	7.18	1.19	*9.44	11.00	*8.25	10.00	3.53	.....	3.53	2.00	13.53	14.00	‡1687
7.23	1.06	8.41	2.08	11.55	.....	*9.47	.....	3.02	.....	3.02	.....	14.01	13.50	1671
11.83	1.78	9.86	1.96	13.60	12.00	11.64	10.00	1.12	.....	*1.12	2.00	17.14	14.75	1374
													15.00	1198
													15.00	1565
12.68	6.91	4.51	2.32	13.74	.....	11.42	.....	5.09	.....	5.09	.....	18.13	16.50	1911
11.50	3.91	5.66	2.67	12.24	11.00	*9.57	10.00	2.03	.....	2.03	2.00	13.66	17.00	1264
													13.50	1757
12.90	6.35	4.70	2.09	13.14	11.00	11.05	10.00	4.85	.....	4.85	.....	17.49	16.00	1749
													17.00	1446
													20.00	2099
11.47	5.27	4.67	1.05	*10.99	12.00	*9.94	10.00	1.34	.....	1.34	1.00	11.58	15.00	1390
													16.00	1409
10.44	1.66	7.39	1.73	10.78	.....	*9.05	10.00	4.48	.....	4.48	4.00	15.26	14.50	1457
													15.50	1364
													.....	1708
11.77	1.56	8.15	1.89	11.60	11.00	*9.71	10.00	2.03	.....	2.03	2.00	13.18	15.00	2164
9.83	2.61	6.73	2.05	11.39	11.00	*9.34	10.00	6.18	.....	*6.18	8.00	17.40	19.25	1436
8.08	1.24	8.84	1.28	11.36	11.00	10.08	10.00	2.84	.....	2.84	2.00	13.98	12.50	2130
11.45	5.00	4.74	1.33	*11.07	11.50	*9.74	10.00	2.46	.....	2.46	2.00	13.82	13.50	1412
													14.00	1679

*Constituent falls below guaranty. ‡Also guaranteed to contain 1.65 per cent. nitrogen.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Nassau Fertilizer Co., New York.	
1962	†Grass and Grain Fertilizer,	Oliver Uhler, Easton,
1907		W. S. Hay, Millersburg,
1754		A. H. Ulsh, Millerstown,
1996		Wm. Ohlinger, Shoemakersville,
2114		W. W. McCullough, New Sheffield,
	G. Ober & Sons, Baltimore, Md.	
1740	Ober's Dissolved Bone and Potash,	Wm. M. Atkinson, McVeytown,
1742	Ober's Standard Potash Compound,	Wm. M. Atkinson, McVeytown,
	Patapsco Guano Co., Baltimore, Md.	
1761	†Patapsco H. G. Bone and Potash,	W. F. Slagle, Bloomsburg,
1915		Henry Hecher, Pillow,
1352	Patapsco Soluble Bone and Potash,	George Becker, Dover,
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.	
1452	†Levering's I. X. L. Crop Grower,	L. H. Leiter & Bro., Milnor,
1419		H. D. & C. C. Bream, Gettysburg,
1516		Jos. A. Little, Washington,
1247	Piedmont Special Potash Mixture,	Austin Baroone, Trent,
1421	Piedmont Soluble Bone and Potash,	H. D. & C. C. Bream, Gettysburg,
	Pollock Fertilizer Co., Baltimore, Md.	
1400	†Pollock's Soluble Bone Phosphate,	Edward Bickel, Rehrersburg,
1726		G. D. Gerlack, Huntingdon,
1695	†Pollock's Victor Bone Phosphate,	J. F. Smith, Centre Hall,
2065		Robert Kerr, West Chester,
	Rasin-Monumental Co., Baltimore, Md.	
1447	†Rasin's Special Bone and Potash,	J. M. Terence, Dillsburg,
1171		F. W. Archey, Penna. Furnace,
1875		Edward Spancake, Pine Grove,
1429	†Rasin's Tripple Bone and Potash,	J. D. Markley, Hanover,
1269		Lewis Hochstetler,
2009		Schlegel, Adams & Co., Fleetwood,
	Reading Bone Fertilizer Co.	
1637	†Special Grain and Grass Grower,	J. H. Kuntz, Shellsville,
1285		Monroe Gingrich, Lebanon,
1983		A. F. Baver, Windsor Castle,
	Scott Fertilizer Co., Elkton, Md.	
1994	†Fritch's Special for Grain and Grass,	L. W. Fritch, Macungie,
2016		L. W. Fritch, Macungie,
1292	Tip Top and Potash,	Elias S. Brubacker, Richland,
	M. L. Shoemaker & Co., Phila., Pa.	
2144	Dissolved Bone and Potash,	M. G. Kurtz, Ephrata,
	Southern Fertilizer Co., York, Pa.	
1354	†Farmer's Mixture,	Earnest & Bupp, York,
1377		Howard N. Bream, York Springs,
	I. P. Thomas & Son Co., Phila., Pa.	
1988	†Alkaline Bone,	Stephen E. Seidel, Hamburg,
1326		Linford Foulke, Quakertown,
2037		C. C. Hipple, West Chester,
1408	†Special Alkaline Bone,	Edward Shuey, Lickdale,
1309		Aaron C. Snyder, Tohickon,
1424		A. J. Harbold, Bermudian,
1526	Special Corn Fertilizer,	L. L. H. Crail, New Sheffield,
	F. W. Tunnell & Co., Phila., Pa.	
2022	Gehman's Special,	Wm. M. Gehman, Macungie,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
12.21	6.01	4.28	.83	11.12	11.00	10.29	10.00	2.14	.....	2.14	2.00	13.78	12.00	1962
													14.00	1907
													14.00	1754
													14.00	1996
													15.00	2114
9.43	8.53	2.89	.57	*11.99	12.00	11.42	10.00	2.45	.....	2.45	2.00	15.00	15.50	1740
12.03	7.42	3.32	1.25	*11.99	14.00	*10.74	12.00	6.83	.....	6.83	5.00	19.18	20.00	1742
12.22	7.79	2.99	.42	*11.20	12.00	*10.78	11.00	1.47	3.23	*4.70	5.00	17.34	16.50	1761
													16.00	1915
11.75	6.74	3.57	.71	11.02	11.00	10.31	10.00	2.11	.....	2.11	2.00	13.80	12.00	1352
13.33	7.51	2.62	.51	10.64	.....	10.13	10.00	3.37	.....	3.37	3.00	15.00	15.50	1452
													16.50	1419
													17.50	1516
10.89	8.34	1.64	.09	10.07	.....	*9.98	10.00	5.19	.....	5.19	5.00	16.74	16.00	1247
10.52	5.93	2.24	.15	8.32	.....	8.17	8.00	2.00	.....	2.00	2.00	12.10	14.50	1421
10.35	6.72	3.46	.68	10.88	.....	10.18	10.00	2.29	.....	2.29	2.00	13.90	16.00	1400
													16.00	1726
9.68	5.88	3.68	.45	10.01	.....	9.56	.....	1.27	.....	1.27	.....	12.28	16.00	1695
													15.00	2265
13.05	5.39	5.62	1.32	12.33	11.00	11.01	10.00	5.62	.....	5.62	5.00	17.86	15.00	1447
													16.50	1171
													19.50	1875
13.05	10.43	2.90	.77	*14.10	14.50	13.33	13.00	7.59	.....	7.59	6.00	21.69	19.00	1429
													20.00	1269
													18.00	2009
10.23	1.59	7.78	3.41	12.78	12.00	*9.37	10.00	1.62	.....	*1.62	3.00	13.09	18.00	1637
													15.00	1285
													14.50	1983
13.35	10.05	2.66	1.86	14.57	14.00	*12.71	13.00	6.35	.....	6.35	6.00	20.38	18.50	1994
													19.00	2016
12.28	6.22	5.28	.71	*12.21	13.00	11.50	11.00	2.63	.....	2.63	2.00	15.00	15.00	1292
11.00	8.81	3.07	.60	12.48	12.00	11.88	10.00	1.89	.....	*1.89	2.00	14.76	16.00	2141
10.68	6.99	3.19	.72	*10.90	11.00	10.18	10.00	2 12	.....	2.12	2.00	13.76	15.00	1354
													14.50	1377
14.70	9.13	1.76	.69	11.58	11.00	10.89	10.00	2.33	.....	2.33	2.00	14.70	14.00	1988
													15.00	1326
													16.00	2037
12.40	4.69	5.85	.97	11.51	11.00	10.54	10.00	5.21	.....	5.21	4.00	16.95	18.00	1408
													17.00	1300
													16.00	1434
11.43	5.56	5.71	.64	11.91	11.00	11.27	10.00	3.07	3.43	6.50	6.50	19.30	20.00	1526
11.95	4.65	8.23	1.06	*13.94	14.00	*12.88	13.00	5.53	.....	*5.53	6.00	18.75	18.50	2022

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Tuscarora Fertilizer Co., Baltimore, Md.	
1767	†Tuscarora Alkaline,	J. W. Painter, Lewisburg,
1328		J. J. Witman, Bethlehem,
2018		Singmaster & Co., Macungie,
1508	†Tuscarora Bone and Potash,	J. A. C. Rider, Tyrone,
1482		J. C. Moorehead, Indiana,
2087		Grant Ewing, Frankfort Springs,
	J. E. Tygert & Co., Phila., Pa.	
1689	Soluble Bone and Potash,	S. C. Walker & Co., Chadd's Ford Junc.,
	Virginia-Carolina Chemical Co., Richmond, Va.	
1459	V. C. C. Co. Peerless Bone and Potash,	Coyle & Diehl, Chambersburg,
1238	V. C. C. Co. Standard Bone and Potash,	J. F. Rhoades, Somerset,
	F. K. Walt Co., Reading, Pa.	
1882	Soluble Bone and Potash,	Louis Heffner, Pine Grove,
	Walker, Stratman & Co., Pittsburg, Pa.	
1827	†Phosphoric Acid and Potash,	S. F. Weeter, Emlenton,
1528		D. P. Green & Son, Shippingport,
2091		W. W. Inglefield, Murdocksville,
	Wengert & Gingerich Jonestown, Pa.	
1299	†Alkaline Bone,	Monroe Gingrich, Lebanon,
1397		Monroe Gingrich, Lebanon,
	Robt. A. Wooldridge Co., Baltimore, Md.	
1167	German Potash Mixture,	W. W. Tate, Bellefonte,
	Wooldridge Orchilla Co., Baltimore, Md.	
2141	German Alkaline Mixture,	E. O. Hacker, Lincoln,
1738	German Potash Mixture,	A. W. Nale, Milroy,

†Composite sample,

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
9.43	7.75	2.12	.61	*10.48	12.00	*9.87	10.00	5.44	.....	5.44	5.00	17.05	15.00	1767
													16.50	1328
													17.00	2018
9.73	8.04	2.41	.75	*11.20	12.00	10.45	10.00	2.49	.....	2.49	2.00	14.47	16.00	1508
													.....	1482
													18.00	2087
‡ 11.41	5.39	4.72	.71	*10.82	11.00	10.11	9.00	2.42	.....	2.42	2.00	13.81	16.00	1689
10.09	2.96	6.65	1.12	10.73	9.00	9.61	8.00	5.05	.....	5.05	2.00	16.09	11.75	1459
11.99	2.93	7.94	1.24	12.11	11.00	10.87	10.00	2.94	.....	2.94	2.00	14.73	15.00	1238
8.98	3.89	5.80	5.82	15.51	.....	*9.69	10.00	2.62	.....	2.62	2.00	15.43	14.00	1882
8.13	4.25	6.68	1.36	12.29	11.00	10.93	10.00	1.87	.....	*1.87	2.00	13.86	19.00	1827
													16.00	1528
													16.00	2091
12.83	1.27	7.47	.47	*9.21	10.00	8.74	8.00	1.84	.....	1.84	1.62	11.86	14.00	1298
													14.00	1397
10.44	7.34	3.28	.56	11.18	11.00	10.62	10.00	2.11	.....	2.11	2.00	14.02	14.00	1167
10.73	5.38	4.96	1.59	11.93	.....	10.34	.....	2.13	.....	2.13	.....	14.04	14.00	2141
11.13	7.31	3.17	.59	11.07	.....	10.48	.....	2.12	.....	2.12	.....	13.92	15.00	1738

*Constituent falls below guaranty. ‡Also guaranteed to contain 1.65 per cent. nitrogen.

DISSOLVED BONE

Furnishing Phosphoric

Sample number.	From Whom Sample Was Taken.	Manufacturer and Brand.
	Eureka Fertilizer Co., Perryville, Md.	
1185	Dissolved Animal Bone, ...	W. E. Urich, Myerstown, ...
	D. B. Martin Co., Philadelphia, Pa.	
1549	†Pure Dissolved Animal Bone, ...	J. H. Thompson, Harmarville, ...
2157		E. B. Brubacher & Son, Brubachers, ...
	Pollock Fertilizer Co., Baltimore, Md.	
1344	Pollock's Dissolved Animal Bone, ...	Strayer Bro. & Co., York, ...
	Scientific Fertilizer Co., Pittsburg, Pa.	
1553	†Scientific Bone and Meat, ...	R. J. Toepfer, Tarentum, ...
1586		C. H. Shipman, Leechburg, ...
	F. W. Tunnell & Co., Phila., Pa.	
1648		J. M. Kendall, Linfield, ...
1213	†Raw and Acidulated Bone, ...	Morris T. Briggs, Woodburn, ...
2023		Wm. M. Gehman, Macungie, ...
	Walker, Stratman & Co., Pittsburg, Pa.	
2111	Bone and Meat, ...	R. J. Wallace, Canonsburg, ...

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Nitrogen in 100 Pounds.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Found.	Guaranteed.			
				Found.	Guaranteed.	Found.	Guaranteed.					
7.00	3.08	7.28	2.23	*12.59	15.00	*10.36	12.00	*1.28	1.65	20.38	23.00	1185
8.53	6.57	7.12	2.46	16.15	14.00	13.69	12.00	1.73	1.65	27.30	25.00	1549
											22.00	2157
9.11	8.18	3.38	4.57	16.13	.....	11.56	.....	2.10	.....	26.83	25.00	1344
3.63	2.21	4.51	9.37	16.09	.....	*6.72	16.00	*2.35	3.30	26.05	26.00	1553
											.....	1586
4.30	4.25	7.26	9.88	21.39	20.00	11.51	10.00	*1.18	1.65	24.84	25.00	1648
											28.00	1213
											26.00	2023
4.34	2.18	4.76	7.07	*14.01	16.00	6.94	.....	3.64	3.30	29.73	23.00	2111

*Constituent falls below guaranty.

GROUND BONE

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Allegheny City Works Co., Allegheny, Pa.	
1582	Butchers' Bone Meal,	J. S. McLaughlin, Apollo,
	American Agricultural Chemical Co., New York.	
1495	†Fine Ground Bone 3-50,	H. F. Gump & Son, Everett,
1670		H. Passmore & Bro., Oxford,
1275	Fine Ground Bone,	C. R. Ankeny, Jenners,
	Sharpless & Carpenter Branch, Philadelphia, Pa.	
1649	†Sharpless and Carpenter's Fine Ground Bone.	Van Buskert Bros., Pottstown,
2041		H. L. Yeasley, Thornton,
	Tygert-Allen Branch, Phila., Pa.	
1651	Tygert-Allen Pure Ground Bone,	J. Fegley & Son, Pottstown,
	Williams & Clark Branch, New York.	
2072	Fine Ground Bone,	J. C. Bonsall, Elwyn,
	American Reduction Co., Pittsburg, Pa.	
1849	Fine Ground Bone,	N. S. Grammling, Elton,
	Armour Fertilizer Works, Chicago, Ill.	
1474	†Amour's Bone Meal,	Frank Douglass, Indiana,
1318		W. D. Weaver & Son, Perkasie,
1500		John S. Hershberger, Everett,
1548	†Bone Meal,	W. H. Snyder, Unionville,
1551		Chas. T. Wills & Co., Parnassus,
1782	†Armour's Raw Bone Meal,	A. A. Loss, Hartleton,
1933		N. D. Yoder, Hegins,
	Bowker Fertilizer Co., Boston, Mass.	
2084	Bowker's Market Bone,	B. F. McClure & Bro., Burgettstown,
	Josiah Cope & Co., Lincoln University, Pa.	
2047	Ground Raw Bone,	Ed. Marsh, Malvern,
	James G. Downward & Co., Coatesville, Pa.	
2063	Pure Ground Raw Bone,	Morris Bailey, Malvern,
	Griffith & Boyd, Baltimore, Md.	
1360	Pure Fine Ground Bone Meal,	G. H. Wolf's Sons, Mt. Wolf,
	S. M. Hess & Bro., Philadelphia, Pa.	
2118	Ground Bone,	H. R. Mason, Fairview,
1497	†Ground Bone,	David Price, Everett,
	D. B. Martin Co., Philadelphia, Pa	
1972	Martin's Ground Bone,	Wm. E. Richardson, Chalfont,
1550	†Pure Ground Bone,	J. H. Thompson, Harnsville,
1853		Harry Keefer, Pine Grove,
2044	Pure Raw Bone Meal,	Malvern Supply Co., Malvern,
	Nassau Fertilizer Co., New York.	
1502	Bone Meal,	A. M. McClure, Everett,
1001	Fine Ground Bone,	A. M. McClure, Everett,

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Mechanical Analysis.		Chemical Analysis.				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Diameter less than 1-50 inch "fine."	Diameter greater than 1-50 inch, "coarse."	Phosphoric Acid.		Nitrogen.				
			Found.	Guaranteed.	Found.	Guaranteed.			
4.03	85	15	*15.00	16.00	3.41	3.30	24.92	24.00	1582
3.96	79	21	26.71	22.80	2.52	2.47	29.91	30.00	1495
								26.00	1670
3.13	87	13	23.92	22.80	2.80	2.47	29.28	26.50	1275
4.17	80	20	24 92	.....	2.83	.....	29.84	30.00	1649
								28.00	2041
4.34	70	30	22.94	.....	3.41	.....	29.84	22.00	1651
3.14	85	15	25.06	22.80	2.84	2.47	30.15	30.00	2072
4.28	75	25	21.47	20.00	*1.45	1.65	22.71	26.00	1849
4.20	89	11	25.12	24.00	2.87	2.47	30.38	28.00	1474
								.....	1318
4.23	87	13	*23.83	24.00	2.48	2.47	28.26	30.00	1500
								28.00	1548
8.11	58	42	23.52	22.00	3.88	3.70	31.26	27.00	1551
								31.00	1782
								26.00	1933
3.66	80	20	27.29	20.00	1.86	1.65	28.26	26.00	2084
6.98	81	19	*21.83	22.00	3.85	2.47	31.02	27.00	2047
5.19	62	38	24.24	20.00	*3.01	3.30	29.08	28.00	2063
5.95	26	74	18.85	.....	3.58	.....	25.93	29.00	1360
4.68	81	19	20.42	20.00	*2.43	3.30	25.44	29.00	2118
‡5.68	73	27	14.06	20 00	2.57	3.30	21.09	32.00	1497
5.29	76	24	24.07	22.90	1.95	1.65	26.17	27.00	1972
7.65	74	26	25.16	22.90	1.85	1.65	26.50	26.00	1550
								28.00	1858
6.36	70	30	23.24	21.98	3.89	3.30	31.66	28.00	2044
6.20	67	33	18.82	13.73	2.29	1.65	23.36	24.00	1502
6.57	90	10	23.02	.....	2.49	.....	27.76	30.00	1501

†Composite sample.
‡Considerable added sulphates present; probably salt cake.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Pugh & Lyon, Oxford, Pa.	
1665	Ground Raw Bone,	S. R. Dickey & Co., Oxford,
	Pyle & Sullivan, Landenburg, Pa.	
1672	Pure Ground Raw Bone,	Passmore & Gillespie, Nottingham,
	Schaal-Sheldon Fertilizer Co., Erie, Pa.	
1522	Pure Bone Meal,	I. W. Scott & Co., Pittsburg,
	Scientific Fertilizer Co., Pittsburg, Pa.	
1268	†Pure Raw Bone Meal,	Lewis O. Hostetler, Windber,
1358		R. C. Heffley, Berlin,
1469		J. R. Henderson, Indiana,
	M. L. Shoemaker & Co., Phila., Pa.	
1191	Swift Sure Bone Meal,	A. Aaron Bicksler, Jonestown,
	Smith Agricultural Chemical Co., Columbus, O.	
1581	†Raw Bone Meal,	Frank Ashbaugh, Vandergrift Heights,
2083		B. F. McClure & Bro., Burgettstown,
	Swift & Co., Chicago, Ill.	
1515	†Swift's Pure Bone Meal,	Canonsburg Milling Co., Canonsburg,
2048		Thos. Haines & Co., Malvern,
1840	Swift's Pure Raw Bone Meal,	D. J. Davis, Ebensburg,
	I. P. Thomas & Son Co., Phila., Pa.	
2060	Pure Ground Animal Bone,	Jos. C. Jones & Son, Conshohocken,
	F. W. Tunnell & Co., Phila., Pa.	
1307	†Pure Ground Bone,	E. S. Yost, Perkasie,
1647		J. M. Kendall, Linfield,
	Tuscarora Fertilizer Co., Baltimore, Md.	
1813	Animal Bone,	Seep Bros., Oil City,
	Walker, Stratman & Co., Pittsburg, Pa.	
1847	†Pure Raw Bone Meal,	I. J. Wissinger, Lovett,
1542		A. W. Moore, Beaver Falls,
2090		W. W. Inglefield, Murdocksville,
	F. K. Walt & Co., Reading, Pa.	
2056	Ground Animal Bone,	H. Supplee & Son, Conshohocken,
	Robt. A. Wooldridge Co., Baltimore, Md.	
1798	Wooldridge Tuckahoe Bone Meal,	S. G. Updegraff, Williamsport,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Mechanical Analysis.		Chemical Analysis.				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Diameter less than 1-50 inch "fine."	Diameter greater than 1-50 inch, "coarse."	Phosphoric Acid.		Nitrogen.				
			Found.	Guaranteed.	Found.	Guaranteed.			
7.37	44	56	22.65	20.00	3.78	3.30	29.72	29.00	1665
4.43	80	20	26.57	18.00	*2.00	2.47	28.21	28.00	1672
4.25	60	40	*21.66	22.00	*3.27	3.30	28.05	30.00	1522
5.99	71	29	*21.49	22.00	4.10	3.30	31.14	26.00 28.00 26.00	1268 1258 1469
2.92	92	8	23.08	20.00	5.54	4.12	38.05	31.85	1191
5.91	76	24	32.75	27.00	*.87	1.24	28.60	25.00 28.00	1581 2083
3.32	82	18	28.12	25.00	*2.04	2.47	29.55	28.00 25.00	1515 2048
6.51	74	26	23.22	20.00	4.21	2.47	32.77	30.00	1840
6.83	80	20	21.55	21.00	3.98	3.30	31.26	27.00	2060
4.12	84	16	27.35	25.00	*1.75	2.47	28.10	28.00 31.00	1307 1647
4.11	85	15	25.70	24.00	2.81	2.47	30.46	24.00	1813
5.88	68	32	*21.79	22.00	3.81	3.30	30.25	30.00 28.00 24.00	1847 1542 2090
5.91	52	48	18.73	.....	3.80	.....	27.52	28.00	2056
6.16	63	37	20.67	13.74	3.34	2.47	27.81	28.00	1798

*Constituent falls below guaranty.

ACIDULATED

Furnishing

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Alexandria Fertilizer and Chemical Co., Alexandria, Va.	
1966	Dissolved Bone Phosphate,	John Redline, Harpers,
	American Agricultural Chemical Co., New York.	
1249	†Buyers' Choice Acid Phosphate,	R. O. Brouner, Glade,
1487		G. W. Martin, Saltsburg,
1616	High Grade Acid Phosphate,	H. W. Northup, Glenburn,
	Canton Chemical Branch, Baltimore, Md.	
1866	Baker's Dissolved S. C. Rock,	Lewis Heffner, De Turksville,
	Lazaretto Branch, Baltimore, Md.	
1423	Lazaretto Dissolved Bone Phosphate,	Hanover Produce Co., New Oxford,
	Milsom Branch, E. Buffalo, N. Y.	
2193	Milsom's Acid Phosphate,	Gordon & Hoffman, Waynesburg,
1488	†Milsom's Dissolved Bone Phosphate,	G. W. Martin, Saltsburg,
1333		Frank C. Williams, Easton,
1163		J. H. & S. E. Weber, Boalsburg,
1514		J. B. Dunlap & Son, Canonsburg,
1568		T. Bolen, Livermore,
	Reese Branch, Baltimore, Md.	
1332	†Reese's Dissolved Phosphate of Lime,	Frank C. Williams, Easton,
2030		Wm. C. Ball, Media,
1323	Reese's Elm Phosphate,	W. H. Hinkle, Quakertown,
	Sharpless & Carpenter Branch, Philadelphia, Pa.	
2004	S. & C.'s Acid Phosphate,	L. A. Geiger, Joanna,
	Tygert-Allen Branch, Phila., Pa.	
2039	Howitz Acid Phosphate,	Marshall & Matlack, West Chester,
1928	Star Soluble Bone Phosphate,	H. H. Geist, Hegins,
	Williams & Clark Branch, New York.	
1490	†Williams & Clark's Acorn Acid Phos.,	H. T. Beatty, Saltsburg,
1468		J. W. Harbison, Indiana,
1587		McConnell & Luker, Kittanning,
1700		Ed. Corl, State College,
	Zell Branch, Baltimore, Md.	
2208	Zell's Dissolved Bone Phosphate,	Schell Hardware Co., Cornelsville,
	Armour's Fertilizer Works, Chicago, Ill.	
1559	†Armour's Cereal Phosphate,	Harvey Black, Ligonier,
1475		Frank Douglass, Indiana,
2094		J. B. Swaney, Hookstown,
2109		Geo. B. Sprowls, Claysville,
1262	†Armour's Star Phosphate,	S. Geisel, Hooversville,
1184		McCalmont & Co., Bellefonte,
1473		Frank Douglass, Indiana,
	Baltimore Fertilizer Co., Baltimore, Md.	
1455	High Grade Acid Phosphate,	Ed. Marhiemer, Chambersburg,
	Baltimore Pulverizing Co., Baltimore, Md.	
2117	S. C. Bone,	J. G. Derringer, Fairview,

†Composite sample.

ROCK PHOSPHATES.

Phosphoric Acid.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
3.88	12.84	3.36	.16	16.36	15.00	16.20	14.00	14.53	12.00	1966
9.99	12.67	3.07	.29	16.03	.....	15.74	.....	14.29	.....	1249
									13.00	1487
3.21	10.17	4.89	5.26	20.32	.....	15.06	.....	15.34	.....	1616
9.62	10.66	3.78	1.03	15.47	15.00	14.48	14.00	13.53	13.00	1866
9.56	10.63	3.85	.97	15.45	15.00	14.48	14.00	13.53	13.00	1423
4.37	10.62	5.67	1.82	18.11	15.00	16.29	14.00	14.91	18.00	2193
									14.00	1488
10.83	8.64	4.60	1.50	14.74	13.00	13.24	12.00	12.73	.....	1333
									12.00	1163
									16.00	1514
									12.00	1568
9.37	11.42	4.02	.74	16.18	15.00	15.44	14.00	14.12	.....	1332
10.60	10.65	3.43	1.12	15.20	15.00	14.08	14.00	13.34	13.00	2030
									14.00	1323
10.25	10.77	3.75	1.53	16.05	15.00	14.52	14.00	13.76	12.00	2004
9.93	10.21	4.56	.55	15.32	15.00	14.77	14.00	13.48	14.00	2039
10.55	3.46	6.81	1.07	11.34	.....	10.27	.....	10.16	.....	1928
12.33	11.04	3.91	1.03	15.98	15.00	14.95	14.00	13.88	16.00	1490
									18.00	1468
									16.00	1587
									13.50	1700
13.41	10.14	4.29	.84	15.27	15.00	14.43	14.00	13.38	.....	2208
6.48	7.00	4.12	1.21	12.33	12.00	11.12	10.00	11.17	15.00	1559
									14.00	1475
									13.00	2094
									15.00	2109
8.01	13.08	2.06	.92	16.06	16.00	15.14	14.00	14.19	16.00	1262
									13.50	1184
									15.00	1473
10.25	12.78	2.59	.37	15.74	.....	15.37	14.00	14.11	11.50	1455
9.33	12.54	3.57	.49	16.60	.....	16.11	14.00	14.55	14.00	2117

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Bradley & Green Fertilizer Co., Philadelphia, Pa.	
2166	High Grade Phosphate,	S. H. Snavely, Manheim,
	Cincinnati Phosphate Co., Cincinnati, Ohio.	
1829	Capitol Wheat Grower,	F. W. Williams, Sandy Lake,
	Eureka Fertilizer Co., Perryville, Md.	
2203	Acid Phosphate,	W. M. Davis, Jr., Greensboro,
1580	K. and G. Acid Phosphate,	O. J. King, Apollo,
1173	P. and P. Superphosphate,	M. Campbell, Penna. Furnace,
	Griffith & Boyd, Baltimore, Md.	
1412	†High Grade Acid Phosphate,	Uriah H. Buck, Jonestown,
1361		G. H. Wolf's Sons, Mt. Wolf,
1486		S. N. Moorehead & Son, Indiana,
	S. M. Hess & Bro., Philadelphia, Pa.	
1498	†High Grade Acid Phosphate,	David Price, Everett,
1410		Adam Yeagley, Jonestown,
1736		R. A. Naginey, Milroy,
	Hubbard Fertilizer Co., Baltimore, Md.	
1428	Hubbard's Crescent Soluble Crop Producer,	Shaeffer & Frye, Hanover,
1427	†Hubbard's High Grade Soluble Tennessee Phosphate.	Shaeffer & Frye, Hanover,
1356		Brillinger & Swartz, Emigsville,
1707		Wm. Thompson, Lemont,
1614	Hubbard's High Grade Tennessee Phosphate	W. H. Sneidiker, Sneidiker,
	M. P. Hubbard & Co., Baltimore, Md.	
1451	Hubbard's Soluble S. C. Bone Phosphate,	H. D. Statler, Greencastle,
	Daniel Levan, Lebanon, Pa.	
2138	Acid Phosphate,	J. D. Sellers, Ephrata,
	Nassau Fertilizer Co., New York.	
1998	†Soluble Bone Phosphate,	Wm. Ohlinger, Shoemakersville,
1963		Oliver Uhler, Stockertown,
2113		W. W. McCullough, Green Garden,
	G. Ober & Sons Co., Baltimore, Md.	
1438	†Ober's Dissolved Bone Phosphate,	G. W. Altland, York,
1741		W. M. Atkinson, McVeytown,
	Patapsco Guano Co., Baltimore, Md.	
1578	†Patapsco Pure Dissolved S. C. Bone,	O. J. King, Apollo,
1353		Geo. Becker, Dover,
1762		W. F. Slagle, Bloomsburg,
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.	
1722	Piedmont High Grade S. C. Bone,	J. C. Simpson, Huntingdon,
	Pittsburg Provision and Packing Co., Pittsburg, Pa.	
1524	†Acid Phosphate,	F. W. Patterson, New Sheffield,
1590		B. Way, Freeport,
	Pollock Fertilizer Co., Baltimore, Md.	
1693	Pollock's Dissolved S. C. Bone,	E. C. Ross, Lemont,
	Rasin-Monumental Co., Baltimore, Md.	
1169	Rasin Acid Phosphate,	F. W. Archey, Penna. Furnace,
1430	Rasin Sea Wall Special,	J. D. Markley, Hanover,

†Composite sample.

PHOSPHATES—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
10.95	10.35	3.85	.89	*15.09	16.00	14.20	14.00	13.29	11.50	2166
10.30	9.26	5.29	2.08	16.63	15.00	14.55	14.00	13.80	16.00	1829
5.91	1.19	11.98	1.95	15.12	.....	13.17	.....	11.95	16.00	2203
6.93	.72	10.52	1.77	*13.01	14.00	*11.24	12.00	10.68	.....	1580
4.35	.92	11.17	1.85	*13.94	16.00	*12.09	14.00	11.25	.....	1173
11.15	12.69	2.48	1.21	16.38	15.00	15.17	14.00	14.28	14.00	1412
									13.00	1361
									15.00	1486
11.85	10.79	4.00	1.05	*15.84	16.00	14.79	14.00	13.76	13.50	1498
									13.00	1410
									13.00	1736
4.68	.65	9.75	2.35	12.75	.....	10.40	10.00	10.38	10.50	1428
11.32	11.83	3.24	.85	15.92	.....	15.07	14.00	13.96	11.00	1427
									13.00	1356
9.42	9.48	5.43	1.40	16.31	.....	14.91	14.00	1378	.....	1707
									15.50	1614
8.92	12.47	2.63	.45	15.55	15.50	15.10	14.00	13.93	11.50	1451
12.30	12.79	2.59	.13	15.51	15.00	15.38	14.00	14.01	12.00	2138
10.61	11.09	4.39	1.08	16.56	15.00	15.48	14.00	14.22	13.00	1998
									11.00	1963
									14.00	2113
8.83	12.10	2.91	.98	15.99	16.00	15.61	14.00	14.01	12.50	1438
									14.00	1741
11.62	11.02	3.88	.65	15.55	15.00	14.90	14.00	13.70	.....	1578
									12.00	1353
									12.50	1762
11.72	10.84	3.73	.31	14.88	.....	14.57	14.00	13.38	13.00	1722
2.85	7.32	6.69	3.47	17.48	14.00	14.01	13.00	13.76	16.00	1524
									16.00	1590
8.85	9.61	4.98	.71	15.30	.....	14.59	14.00	13.36	12.00	1693
12.06	13.68	2.47	1.24	17.39	15.50	16.15	14.00	15.00	12.50	1169
3.38	1.03	10.91	5.26	17.20	11.50	11.94	10.00	12.39	12.00	1430

*Constituent falls below guaranty.

Sample number.	Manufacture and Brand.	From Whom Sample Was Taken.
	Reading Bone Fertilizer Co., Reading, Pa.	
1982	Soluble Dissolved Bone,	A. F. Baver, Windsor Castle,
	Scott Fertilizer Co., Elkton, Md.	
1293	Tip Top Soluble Bone,	Elias S. Brubacher, Richland,
	Southern Fertilizer Co., York, Pa.	
1425	Dissolved Bone Phosphate,	J. C. Bireley, New Oxford,
	Swift & Co., Chicago, Ill.	
1531	Garden City Phosphate,	R. G. Young, New Galilee,
	I. P. Thomas & Son Co., Phila., Pa.	
1916	†S. C. Phosphate,	H. L. Hoffman, Elizabethville,
1712		Wm. Miller, Saltsburg,
1978		F. H. Stump, Hamburg,
	Tuscarora Fertilizer Co., Baltimore, Md.	
1327	†Tuscarora Acid Phosphates,	J. J. Witman, Bethlehem,
1181		McCalmont & Co., Bellefonte,
1481		J. C. Moorehead, Indiana,
1480	†Tuscarora Cereal Phosphate,	J. C. Moorehead, Indiana,
1183		McCalmont & Co., Bellefonte,
1611		Loucks & Morrow, Scottdale,
	Walker, Stratman & Co., Pittsburg, Pa.	
1527	†Helpmate,	D. P. Green & Son, Shippingport,
1541		A. W. Moore, Beaver Falls,
	Robt. A. Wooldridge Co., Baltimore, Md.	
1166	Florida Acid Phosphate,	W. W. Tate, Bellefonte,
	Wooldridge Orchilla Co., Baltimore, Md.	
1841	†Orchilla Guano,	Geo. Huntley, Ebensburg,
1729		A. L. Peachy, Belleville,
2142		E. O. Hacker, Ephrata,
	Henry S. Zook, Elverson, Pa.	
2146	No. 4 Clear Acid Phosphate,	Henry S. Zook, Joanna,

†Composite sample.

PHOSPHATES—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
14.03	4.90	6.19	3.92	15.01	14.00	*11.09	12.00	11.85	12.50	1982
12.10	2.44	11.96	1.68	16.08	16.00	14.40	14.00	12.75	13.50	1293
10.55	10.90	4.31	.54	15.75	.....	15.21	14.00	13.83	11.00	1425
6.28	9.31	6.82	1.13	17.26	15.00	16.13	14.00	14.40	16.00	1531
13.95	11.86	2.99	.13	*14.98	15.00	14.85	14.00	13.59	14.30	1916
									12.00	1712
									12.00	1978
9.35	12.32	2.53	.77	*15.62	16.00	14.85	14.00	13.87	14.00	1327
									12.50	1181
									.....	1481
									.....	1480
7.71	8.59	2.83	.99	12.41	12.00	11.42	10.00	11.43	11.50	1183
									14.00	1611
5.08	2.69	9.31	1.94	13.94	13.00	12.00	12.00	11.43	14.00	1527
									16.00	1541
9.66	10.79	3.44	1.01	*15.24	15.25	14.23	14.00	13.41	12.00	1166
8.05	.08	9.39	13.02	22.49	17.00	9.47	4.00	13.59	20.00	1841
									18.00	1729
									17.00	2142
10.18	10.49	4.42	1.21	16.12	15.00	14.91	14.00	13.83	12.35	2146

*Constituent falls below guaranty.

MISCELLANEOUS

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
1168	**Jacob Reese, Philadelphia, Pa.** Odorless Slag Phosphate, ...	John Hamilton, State College, ...

FERTILIZERS.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
.09	.08	8.53	11.47	20.08	.....	8.61	.....	.....	.....	1168